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BALTIMORE, MAY 24, 1895.

WE commend to our readers the article in this issue from the Worcester (Mass.) Spy on the "Redistribution of Population."

THE Mexican National Exposition, which was to have opened in April, 1896, has been postponed one year in order to allow time for making it a much larger undertaking.

THE Georgia Cracker says:

A man who tries to build up his town and country is worth a 10-acre field full of rich doubting Thomases, even if he is not able to buy a hen and chickens. The Lord deliver us from the fellow who is eternally trying to cast a damper over any sort of improvement. Every town and community has its full share of just such, and it would be better to colonize them in some section entirely surrounded by a territory of man-eating cannibals.

The Cracker is a little savage in its denunciation, but probably not too much so.

A GREAT contest has been going on among the railroads in West Virginia for the location of the Methodist Chataqua. This will combine a Chataqua, a summer resort and camp-meeting on the principal of the New York Chataqua. Clarksburg on the Baltimore and Ohio Railroad, Mason City on the Ohio River Railroad, Clay county on the Charleston, Clendennin & Sutton Railroad, Kingswood in Preston county, and Camden-on-the-Gauley on the West Virginia & Pittsburg Railroad, were the principal competing points. After a very vigorous contest the new railroad being built from Charleston to Sutton carried off the prize. This road is being built by Messrs Drake & Stratton, of Philadelphia, and Governor MacCorkle and Col. R. S. Carr had charge of the management of the fight for the Charleston, Clendennin & Sutton, and they succeeded in landing the Chataqua on Mount Pisgh, in Clay county, one of the most beautiful spots in existence. The Methodists will immediately lay out the grounds, build a great temple and a splendid hotel, and numbers of people have expressed themselves as intending to erect cottages. This is considered a great victory for the Charleston, Clendennin & Sutton Railroad and will be a great feeder to their system.

\$100,000,000 a Year from Fruit and Truck.

Mr. Lee McLenden, of the Plant system, Montgomery, Ala., has furnished the MANUFACTURERS' RECORD with a detailed statement of the probable shipments of watermelons over that road and its branches this season, showing that the present outlook indicates a total of over 10,000 carloads. There are 21,900 acres along that line in watermelons this season, the largest acreage ever reported. These 10,000 carloads will represent about 12,000,000 melons. These facts give some idea of the development of the trucking business in the South and its relation to railroad traffic. In hauling cotton 10,000 carloads would represent about 500,000 bales, or the product of 1,000,000 to 1,500,000 acres on the general average of about one-third to one-half a bale per acre; or, in other words, 22,000 acres in watermelons yield as many cars of freight as 1,000,000 to 1,500,000 acres in cotton.

Add to the 10,000 cars along this one system the production of watermelons at other points, the thousands of cars of peaches which will go North from Georgia this year, the solid trainloads day after day of strawberries and other fruits and vegetables from many parts of the South, and the magnitude of this industry—a growth of recent years—can be appreciated. This business means that within the next few years the fruit and market-garden business of the South, now bringing into this section at least \$50,000,000 a year, will amount to \$100,000,000 or more, with a steady increase year after year.

Those Birmingham Bonds.

The report that the city of Birmingham has decided to force a refunding of its bond issue at a lower rate of interest has attracted such general attention that the impression has gone abroad that the business men and capitalists are generally in favor of the proposition. The MANUFACTURERS' RECORD, however, takes pleasure in correcting this idea, which is erroneous. At the annual meeting of the Commercial Club, which is composed of prominent residents of the city, and includes many manufacturers and business men, President Rhodes condemned the refunding proposition as follows:

No greater blunder, with good intentions, I concede, was ever committed than Mayor Van Hoose's city-bond-funding scheme. The cry "Birmingham is trying to repudiate her honest debts" is ringing through the land with damning reverberations, silencing the voices of our friends and cheering on to calumny our enemies. The press North, West and South are denouncing us. We must put a stop to this hue and cry, else our fair name, the most precious jewel of our soul, will be besmirched beyond our own recognition, and all property values lastingly damaged. Private credit cannot long survive the death of public credit. Happily, Birmingham as yet has made no default, except by intimation. Interest cou-

pens to date have been promptly paid. More than \$30,000 in cash are in the city treasury, and other moneys are in sight, with which Birmingham can certainly meet her interest charges for some time to come.

The thing for this club, for the business and professional men and property-owners of this city to do instantly is to insist that the city administration and the commission appointed to fund the city's bonds if possible, recall the suicidal circular-letter which was sent out to the holders of bonds and to announce boldly and sincerely that the city of Birmingham will pay her honest debts as long as she possibly can; that she will be honest. If she cannot pay now, she will promise to pay, and she will keep on trying to pay until a constitutional amendment can be secured or some other means devised whereby she can raise funds, when Birmingham will most gladly pay every cent she owes.

The bondholders ought to gain comfort from this reassuring statement, and doubtless will. There is no reason why Birmingham, with all its resources, cannot work out some way to meet its debt, and we believe that it will do so.

Governor Hogg and Cotton Mills.

Ex-Governor Hogg, of Texas, has been in New England, presumably promoting the Trinity, Cameron & Western Railroad and other projects in which he is interested. While in Boston he looked into the textile-manufacturing situation, and this is the result of his observations as given to a correspondent of the Galveston News:

The manufacturers of textile fabrics are very much impressed with the outlook for their success in the South. As I have said, they know more about the laws and conditions in the Southern section of the country than do the New Yorkers. This may be ascribable to two things. First, Yankee curiosity; second, Yankee caution when they come down to trade. These two have caused their panicky feeling in regard to the flight of textile manufactories to the South. They understand the thrift of their people, which will make them take advantage of any situation where they can manufacture cheaply and sell the manufactured goods at a profitable figure. They understand that, taking it all and all, their manufacturing business has grown in a hothouse, cared for and watered artificially by the last war and by a protective tariff, and not naturally. They understand that proximity to the raw material, other things being equal, such as climate, fuel and labor, controls the location of factories. They know the distance between them and the cotton-fields of the South, and they know, as I have stated, that the absolute destruction of wealth necessary to the inauguration of manufacturing interests in the South at the end of the war and the care of the protective tariff for thirty years after the war put the dirt in every brick that goes to make the towering buildings in which they have done the spinning and weaving of this new world and a part of the old. The war is past. The tariff as it was is at an end for good. Conditions have changed, and that shrewd, game, everlastingly-on-the-move and wise American spirit, which finds its highest illustration among these people, will change with it and adapt itself to it. They know, these people do, the lands, the fuel, the climate of the South—know it better, perhaps, than we do ourselves. They can tell you quickly, in response to the interrogation and taking no time to study, how much coal costs in different localities, how cheap labor is, the character of the cotton in such localities, and actually the atmospheric conditions and their effect on the staple that they intend to weave.

I was amused by a condition which developed while I was in that country. While I was holding office in Texas I was charged with having scared capital to death and made it fly beyond the limits of the State. When I reached Massachusetts, its natural home, the very nest in which it was hatched, I found that the officials of that State

were being charged with scaring this same capital and making it leave Massachusetts. It looked to me as if this capital, so scary, wouldn't settle anywhere, and that it would be impossible to get it to nest.

If the people of Texas would take the interest in inducing capital and people to come to the State that they should, they would readily see that no difficulties of any magnitude lie in their way. Farmers from the East want to come, and, from the report quoted, it is seen that manufacturers want to come. "Abundance of water-power," says the report, "is a great desideratum. Water power is the cheapest motive power. Austin has spent her money for it and got it to an extent that would satisfy any man who ever owned a water wheel; New Braunfels has it; Marble Falls has it. The mills of the East will utilize it if the people in those localities will but let the Eastern people know what they possess."

The Governor's remarks apply equally as well to other Southern States as to Texas. If he will devote himself to this kind of work in the future he will more than counterbalance the evil with which he has rightly or wrongly been charged.

Good Credit Essential.

A leading banking-house, which has been largely interested in the purchase of Southern municipal securities, possibly more so than any other one house in the country, in a letter to the MANUFACTURERS' RECORD, says:

It is true that we have bought very largely of municipal bonds in the Southern States in past years, but the present attitude of the mayor of Birmingham and the action of another city in the South, as well as that of a certain county, lead us to act cautiously in buying municipal bonds in the South. However, we trust that in the near future matters will so adjust themselves that we can feel stronger regarding municipal bonds in the South, which is certainly our desire, and our impressions are that if the South takes proper care of its credit the next extensive movement of capital from the North will be to the South rather than to the extreme West.

It is proper that we should add that outside of the instances referred to above our relations with the various municipalities of the South have been entirely satisfactory to us and very creditable to them.

As stated in the MANUFACTURERS' RECORD some time ago, the action of Birmingham in endeavoring to bring about an enforced readjustment of its indebtedness has proved an injury to the credit of Southern municipalities. The South cannot afford to let its credit suffer if it hopes to attract capital.

THE Elliott Car Co., of Gadsden, Ala., in a letter to the MANUFACTURERS' RECORD says:

We are increasing our force daily. We have 300 men at work now and expect to put 100 to 200 more on. We are now running extra time to keep up with our orders. Have orders for 150 fruit cars for the Southern Railway Co., 250 box cars and 150 coal cars for the Louisville & Nashville Co. We have completed our new wheel foundry and it is running daily. We have enlarged our soft casting foundry and are making general foundry castings for cotton mills and heavy buildings.

THE Young Men's Business League, recently organized at Pensacola, Fla., has wisely decided to make a concerted effort to advertise the advantages the city possesses for the investment of capital and for immigration. Its main efforts will be in this direction.

"Facts About the South."

[Willis (Texas) Index.]

Mr. R. H. Edmonds, editor of the MANUFACTURERS' RECORD, who has done so much through the columns of his great journal for the development and upbuilding of the South, has laid the Southern people under a new obligation. He has published a pamphlet entitled, "Facts About the South," that is the most timely and valuable contribution yet made to Southern industrial literature.

No true son of the South who is proud of her past or concerned for her future can rise from the perusal of this able and exhaustive paper without a sentiment of gratitude to the author for the patriotic task he has so efficiently performed. A pioneer and most industrious gleaner in the field of Southern development, Mr. Edmonds is especially equipped for the laborious work he has undertaken. The facts recited by him and upon which he has constructed the unanswerable argument are taken from the United States census reports and other equally authentic sources.

The patience with which he has delved into this mine of confusing figures, and the skill with which he has fashioned this great mass of data into logical and attractive form, is a notable feature of this publication. This deep research in a field never before explored has thrown a flood of light upon Southern character and conditions, and cannot fail to modify if not change the public verdict as to Southern history and achievement.

Mr. Edmonds at the threshold of his argument joins issue with those who have charged that the South was lacking in the virtue of energy and enterprise—virtues which have been complacently claimed as a special monopoly by other sections of the republic. From records which cannot be questioned and facts which cannot be assailed Mr. Edmonds triumphantly vindicates the Southern people from this accusation. He proves that this charge—so often and so flippantly made—is not only not true, but the reverse is the fact. He demonstrates with great clearness of style and vigor of expression that the history of the South is, from the beginning, a glorious record of enterprise and achievement. He shows that in every epoch of her annals she has revealed a virtue that has been equal to every crisis and superior to every trial. He proudly points to her quick recuperation from the most desolating war known to history as a spectacle without parallel in human annals, whilst it is testimony the most eloquent to the possession of every sturdy and heroic quality that can crown a people's character. The author's description of the industrial revival now witnessed in every State and section of the South is a revelation to the most advanced students of Southern progress. His contention that the South is rich in resources and gifted with opportunities beyond any land the sun in his course shines upon is maintained with the ardor of an advocate and the precision of an expert. He concludes his able exposition with a prophecy of the future of the South that is all aglow with hope and glorious promise. We regret that we have not space to emphasize the salient points of this exhaustive paper. It cannot fail, however, to work great good to the material interests of the South.

It would be unjust to Mr. Edmonds to close this comment on this admirable defense of the South without commending the catholic spirit he has brought to the execution of his delicate task. Though writing as a Southern man deeply devoted to Southern traditions and history, his argument is wholly free from the taint of sectional prejudice or party bias. Whilst feeling the pride and kindling anew the admiration of the true sons of the South, he reveals no cause of offense to citizens of other sections who honestly seek and are satisfied with the truth.

The Baltimore Southern Exposition.

Baltimore Favored.

NORFOLK LANDMARK,
NORFOLK, VA., May 9. }

The Landmark was a warm advocate of Washington city for the great Columbian Exposition, and it favors the Baltimore project for the same reasons. Chief among these is that, being midway between the North and South, it will be ideally located for bringing together the people of the whole country, which would naturally induce large numbers of Northern and Western and Eastern people to extend their trip over the South, or portions of it, and familiarize them with its great advantages and opportunities. I fully believe that such an exposition in Baltimore would have the happiest influence upon the South and upon Baltimore's trade relations with the South. K. C. MURRAY, Editor.

Good for Southern Development.

QUEEN & CRESCENT ROUTE,
CINCINNATI, May 8. }

I believe it has been demonstrated that one of the most valuable means at the command of a community for making its natural resources and applied energies known to the world about it has been the gathering together of its products and manufactures for the inspection of the world in the form of what is known as an exposition. I believe it has been demonstrated already that the coming exposition of Southern products and enterprises at Atlanta is one of the most potent factors for Southern development that has ever been put before the public. By all means let us at all times do, as being interested in the welfare of the South, all that we can to foster such an enterprise as that proposed at Baltimore. The influence it would have upon the South would be far-reaching and long-lasting. W. C. RINEARSON, General Passenger Agent.

Believes In Expositions.

CHESAPEAKE & OHIO RAILWAY CO.,
RICHMOND, VA., May 7. }

I am a great believer in expositions; have seen a great many of them and always found them attended with excellent results. An exposition of the kind you mention in Baltimore is very much to be desired.

DECATUR AXTELL, Second Vice-President.

YOUNG MEN'S BUSINESS LEAGUE,
NEW ORLEANS, LA., May 10. }

It goes without saying that the proposed Centennial Exposition in Baltimore in 1897 will be of a great benefit to the South, and I believe that it will receive hearty support from the people in the South.

HARRY ALLEN, Secretary.

Heartily Commends the Exposition.

THE DISSTON LAND CO.,
PHILADELPHIA, May 20. }

I am in receipt of your esteemed communication of recent date asking an expression of my views upon the desirability of a Centennial Exposition, which it is contemplated to hold in Baltimore in 1897.

It is difficult to foresee the far-reaching effect and great value of an exposition such as the one proposed, and the geographical position of Baltimore renders that city pre-eminently a proper place for this particular purpose. We need but cast a retrospective glance upon the past to be convinced of the importance to commerce as well as to science and the arts of the interchange of thought and experience afforded by the various expositions held in recent years, and the one proposed for Baltimore in 1897 will be the means not only of lucidly presenting to the world the wonderful resources of the South, but also to more firmly establish the friendly intercourse which happily exists, and which has already done so much for the mutual benefit of all sections.

Expositions may be regarded as family gatherings of nations or of States, and I predict for the exposition at Baltimore in 1897 one of the grandest representations of States yet witnessed in this country. I am glad to see your estimable journal take an

active interest in this as well as other important enterprises, and wish for you and the city of Baltimore the success that is so well merited. HAMILTON DISSTON, President.

RICE IN LOUISIANA.

Large Irrigation Enterprises Creating New Conditions for this Industry.

[Special Cor. MANUFACTURERS' RECORD.]

CROWLEY, LA., May 15.

Probably no industry in the United States has attracted more attention in consequence of its rapid development during the past five years than that of rice-growing, and to that section of the country where it is raised it bears the same relation and means the same as a good fruit crop does to California or Florida, or a good wheat crop to Minnesota and the Dakotas, or a corn crop to Iowa or Nebraska. To one who has watched the growth of the rice industry in Southwest Louisiana since its inception eight years ago, at which time it was raised in small patches on basins of lowland where the drainage from the upland would flood it, the development of the industry has been an interesting study. Each year has witnessed a marked improvement in the way of new and improved machinery both for the planting, harvesting and threshing of the crop as well as a more intelligent system as applied to all branches of the industry. All of this has had a tendency to decrease the cost of production. Perhaps no part of the problem of rice-raising on a large scale has received more attention than a water supply or means for supplying water for large tracts of high land.

Prior to 1890 rice-growers planted only the lowest lands, and then depended only on the natural rainfall for flooding purposes, thinking it possible to raise rice only on such lands as could be supplied by natural drainage. Then they began the damming up of the gullies and natural drains of the lands for storing purposes, and followed up this by the throwing up of huge levees around low tracts and allowing them to fill up during the winter months with water for a time of need. These were called reservoirs, out of which the water was pumped on the higher land with pumps of four or five-foot lift.

The most sanguine believers in the prosperity of the industry never expected to see the many inexhaustible streams and bayous with which this prairie region abounds, and which connect with the large bodies of fresh water (lakes and bays) lying close to the gulf coast, utilized for irrigation purposes on account of the high lift from these streams, in many instances as much as twenty-five feet. But the problem has been solved, and that by our own people, and irrigation of Louisiana lands on a large scale is as much a demonstrated fact as it is in California, in consequence of which thousands and thousands of acres of high lands that were supposed to be inaccessible for this purpose are proving to be a bonanza to their owners. They have on this account suddenly developed an intrinsic value that readily places them by the side of the most valuable agricultural lands in the South. Where a few years ago might be seen small tracts of land with levees thrown up around them, depending entirely upon the rainfall or receiving their supply of water from some small pump with horse-power or very light engine, today may be seen large irrigation plants with high lift pumps, with a capacity of millions of gallons, with engines of anywhere from fifty to 150 horse-power capacity, with large and substantial canals often from ten to eighty feet wide and deep enough to run a good-sized boat on, and extending back into the country from two to ten miles, while at regular intervals can be seen the lateral ditches through which the water is taken to flood the different plantations.

Among the largest of these pumping

plants may be mentioned that of the Vermillion Canal Co., which has just been completed and is supplied by the Bayou (Que-de-tortue). The plant comprises six 15-inch Morris pumps, propelled by two 250 horse-power engines, with four 125 horse-power boilers. This plant has a capacity of 75,000 gallons of water per minute, and can readily flood 25,000 acres of land in a season. These pumps deliver their water into a canal eighty feet wide and six feet deep, on which will run a large size flatboat. The Messrs. W. W. Duson & Bro., of Crowley, and the Abbott Bros. are also putting up plants of similar proportion. It is estimated that the different pumps located along the Mermentau river and its tributaries will draw from this stream alone 500,000 gallons per minute for each minute they run. It may be added here that these large canals are always kept on the highest ridges of land, and are built by throwing up parallel levees from the outside, making what might be termed an overland canal instead of cutting below the surface, thus keeping the water supply above all lands to be supplied. This system of irrigation on a large scale has completely revolutionized rice-raising in Southwest Louisiana; it has eliminated many of the disagreeable features from the industry, not the least among which was the uncertainty attached to the planting of a crop and depending for its success upon the rainfall; it has placed it on a solid and profitable basis in which men of means can engage on a large scale without prejudicing the advantages of the man with less capital who farms on a smaller scale; and more than this, it insures to him a degree of success, both as to quality and quantity of product, that cannot be obtained where an unlimited supply of water is not at hand. The raising of rice under the present system of irrigation is reduced to a simple business proposition on which any man of fair business ability ought to be able to figure intelligently and arrive at a conclusion as to the profitability or unprofitability of rice-raising. The cost of water, which is one of the most expensive items connected with the industry under this system, has been reduced to the minimum, as a hundred plantations can be supplied from one plant at 50 per cent. of what it would cost if supplied by separate plants for each farm. This absolute certainty of a crop where planted tributary to these large canals cannot help but be of vast benefit to the planter in the way of an improved quality of the grain as well as an increased quantity of the yield, as the crop absolutely requires an abundance of water for its perfection in order to obtain the highest results.

There is a marked tendency on the part of the planters this season toward a general improvement in the industry, the result of which will be felt in the improvement of the quality of the coming crop and the consequent higher prices. More care has been taken in the selection of seed, and a large amount of land that had been planted many years and had become filled with foul seeds and red rice has been turned into corn-fields or pastures, and a much more thorough and careful fitting of the ground for the reception of the seed has been practiced than in former years. Owing to the dry weather and cold winds in the early part of the season some few fields have had to be replanted, but as a general thing the majority of the fields show up to better advantage with an even and better stand than at the same date at any previous year; and with the increased and ample facilities provided for flooding the coming crop, and in view of the small stock of rough rice on hand, and with many new rice mills springing up in the country towns throughout the district, thus affording competitive marketing points, it is predicted by the best judges that the year 1895 will be the most prosperous in the history of this industry in Southwest Louisiana.

Redistribution of Population.

Some students of political economy are trying to find the answer to this question: "Is it practicable to so apportion the population of the United States to its industrial development and progress that there will be no oversupply of labor at one point and no lack of it at another?" It is claimed that never in the history of this country has there been a time when the number of willing workers was more than enough for the work to be done, but that oftentimes many were unwilling idlers because they and the work needing them could not be brought together. The fact that for thirty consecutive years the country received and gave employment to many thousands of aliens is pointed to as a proof that the demand for labor was great enough to absorb this annual accession without reducing wages, and from this it is argued that when a system can be devised by which the surplus labor forces of one section can be transferred to some other where they are needed, there will be no more periods of universal stagnation, no more armies of the unemployed to be maintained by charity and no more troops of vagrants tramping through the country.

The philosophers who are considering this problem confess that it is beset with difficulties, some of which seem to be insurmountable, but as something must be done to relieve the congestion that comes to our great cities in every long period of business depression, some practical solution must be found that will materially reduce if it does not entirely remove the evil.

Two concurrent plans of relief are favorably regarded by some of the foremost thinkers, these being, first, such a modification of existing laws as will greatly restrict alien immigration, and second, the encouragement of transfers of population from overcrowded communities to sparsely-settled sections where labor is needed and cheap homes can be obtained. This last idea covers the destruction of sweat shops and of compacted tenement-house districts and a great increase in the number of small home-owners.

It has long been apparent to all who watch the trend of public opinion that a sentiment in favor of a radical change in our laws for the regulation of foreign immigration was gaining strength among our adopted as well as native citizens. So long ago as during the administration of President Arthur attention was called to the desirability of new regulations by a delegation of naturalized citizens, who waited upon the President to present to him reasons for recommending such a change of policy in his next message to Congress. The conditions of the past two years have greatly strengthened this feeling throughout the country. A judicious law for the restriction of alien immigration would now receive almost universal approval.

There is no way in which transfers of population from overcrowded cities to country districts can be forced. All movements of that kind must be voluntary. But there can be, if the people so will, an aided interstate immigration that will benefit all concerned, and this may be done on business principles and by business methods. The great sparsely-settled sections of the South afford opportunities for such movements, and the desire for increased populations which most of those States are manifesting insures the co-operation of their people. What are needed are land and immigration companies, organized by Northern capital, to purchase suitable areas in the South, lay them out in small farms and sell them to settlers on the instalment plan, and then select desirable settlers from among the worthy and industrious poor families of our large cities, and aid them to establish themselves in their new homes. One-fifth the money worse than wasted on mis-called charities every

hard winter in great cities, if employed in such practical philanthropies as these suggested corporations would be, would do much to relieve communities of their burdens, while enabling thousands of worthy families, that unaided cannot escape from the bondage of their environments, to become owners of their own homes and independent, self-respecting and prosperous citizens. Much of the mis-called charity of the day increases pauperism. Immigration promoted in the manner suggested would tend greatly to its decrease. A gift of a small farm might or might not benefit its recipient. But the family that has been given the opportunity to purchase the homestead with the fruits of its labors and savings will be a valuable addition to the community. One hundred thousand such families settled in small colonies in the South would add a very desirable element to its population. The thoughtful men of that section recognize this so fully that they are generally prepared to co-operate with every legitimate effort to promote this class of immigration—Worcester (Mass.) Spy.

The South's New Conditions.

The MANUFACTURERS' RECORD, of Baltimore, has the following to say of the South's new conditions:

"The South is undergoing a complete change. Old things are passing away. It is entering upon a period in its history entirely different from any that it has faced in the past. It can no longer be provincial in its aims and work, no longer practically cut off from the rest of the world and a country unto itself. The tendency of the world's business is southward. Capital and population will move this way, and with the incoming thousands whose faces are already turned to this land of promise will come many changes and many new conditions.

"Out of all this, if the people of the South are wise, will come even a better and a broader civilization than we have had—better because it will include all classes, and not simply the favored few. With increase of employment, with the steady expansion of agricultural and business interests, with an ever-swelling tide of population, there will be an uplifting of all the people, there will be more opportunities for the young, more facilities for profitable work, more and better schools, more churches, better roads, and more of the comforts and conveniences of advanced civilization."

The MANUFACTURERS' RECORD is a great friend of the South, yet it could hardly have drawn for the Southern country a more attractive picture, nor one perhaps that is more truthful in detail than what is given by it in the above.—Norfolk (Va.) Virginian.

We rejoice to know that this "attractive picture" is not overdrawn. We are entering upon a period of advancement commensurate with the marvellous resources of soil, climate and mineral and timber wealth so lavishly given this section by nature. Blessed by nature beyond all other countries, this favored land is now preparing for the great and prosperous future that awaits it.

We are informed by Mr. Thurston H. Allen, of the Van Buskirk-McCafferty Co., that his company inserted a small advertisement in this magazine (*Southern States*) for the months of September and October, and had over 500 inquiries from farmers in the North and North West. From editorial in Florence (Ala.) Herald.

If you want to reach the possible land buyers and investors in the North and West who are thinking of locating in the South, advertise in the *Southern States* magazine, published by the Manufacturers' Record Publishing Co., Baltimore, Md.

Activity in North Carolina Gold Properties.

It is reported that something approaching a gold boom has taken place in the Piedmont section of North Carolina. There has for the past year and more been an increased activity among the mines operated and also in a number of new prospects, and now several companies are in a process of organization, while others already organized will likely endeavor to float themselves on the market. While it is not probable that the gold fever in this section will assume very large proportions, still the movement is worthy of attention, and in connection with it, in view of the frequent failures of North Carolina gold-mining companies in the past, it is well to speak a word of caution, not so much against the possibilities of the field, but against wild-cat companies, which will undoubtedly spring into existence.

In the early days of gold-mining in North and South Carolina, Georgia and Alabama, the only ore mined was the decomposed "gossan" capping and auriferous veins. This was treated in old fashioned stamp mills, and judging from the tailings, not more than 50 per cent. of the value was recovered. So soon as the workings struck solid rock containing pyrite they were abandoned and other places opened, or if they extended for any distance they were followed as one might dig a trench. The remains of such workings can be found throughout the gold belt in all the States named. The fact that these were abandoned, however, does not mean that they no longer have any value.

Since that time processes have been perfected for the successful treating of pyritic ores, and at least one, the chlorination plant at the Haile mine, is operating with profit. Another process is in use at Blacksburg, S. C., but with what results is not known, as the owners observe much reticence in speaking of it. Besides the gold veins which were opened in the past and which still present good opportunities for mining, there are many other veins throughout the mining district varying in values from \$3 to as high as \$18 and \$20 per ton, and in some exceptional cases still higher. One ore which is delivered at a South Carolina mill contained in a part of the seam a considerable amount of light yellow, sulphurous looking powder, which, on being assayed, showed \$1800 per ton. This does not by any means represent the value of the vein, which will not average probably over \$17 or \$18 per ton.

It is stated at the Haile mine that to successfully operate a chlorination plant requires in the first place a large body of ore. Here they are operating an ore of low grade at a low cost. Ores of this character are found in considerable abundance, and so far as they have been examined are fairly regular, so that whatever progress is made in Southern gold development must be on the basis of low-grade ore in quantity and with cheap processes for the treatment. Free milling ores are scarce, excepting in the Dah'onega district, and placer workings have so far been found to be very small and uncertain.—The Engineering and Mining Journal.

[The MANUFACTURERS' RECORD has been informed that the Blacksburg (S. C.) plant mentioned yielded such satisfactory results that additional capital was offered for trebling the capacity. This is now being done, and as soon as completed the full plant will be started up.—ED.]

THE Mercury has watched with a great deal of interest the work of Messrs. R. H. and W. H. Edmonds, editors of the MANUFACTURERS' RECORD and *Southern States*, respectively, in behalf of the South. To their efforts may be justly attributed, more than to any other source, the present

extended interest in and knowledge of the wonderful natural resources of the Southern States. They are unselfishly devoted to the development of the South, and are deserving of every consideration from people of that section for the admirable manner in which they have presented and made known the advantages existing there for all who desire to better their condition in life. The Mercury congratulates the Messrs. Edmonds upon the success with which their efforts have been crowned.—New York Daily Mercury.

To Improve the Mississippi.

The government engineers in charge of the improvement of the lower Mississippi river are having a patent dredge, or rather bar-removing boat, built by Riter & Conley at Pittsburg, Pa., which is a novelty in its way. The method of operation is to pump the sand out into the current where it will be carried away. To effect this purpose six long arms are projected from the bow of the boat down into the sandbar. The end of each arm is provided with a screw something like the propeller of a boat, and these are run by power from the engines. As they revolve the water and sand is agitated and transformed into mud. The boat is also provided with powerful pumps, and these suck up the sand and water and force it through pipes to the stern of the boat, from where it is transmitted to a point in the stream where the current is swift enough to carry it away through "floating pontoons." These are pipes buoyed up on the surface of the water, and may vary in length from a few feet to a half a mile or more, according to the location of the bar. During the time the boat is at work it is anchored by means of a huge stick of timber thrust down through an opening in the stern. When this is sunk deep in the mud the craft is practically immovable.

The boat itself will be forty feet wide by 172 feet long, and will be seven feet three inches deep. The bottoms and sides are of three-eighths-inch steel plates, and the inner deck, which will be two feet above the bottom, will be of half-inch steel. Above this will be a double layer of steel "eye beams," each one foot thick. Above them will be the upper deck, and the hurricane deck will be seven foot three-inch line. This multiplicity of decks is made necessary to give the boat the proper strength, as it will carry a very heavy load of machinery. The material in it will weigh about 350 tons, and it will take 120,000 rivets to fasten it together. It will be completed about July 1.

Standard Oil Co. in Kentucky.

The oilfields of Kentucky have attracted the attention of the Standard Oil Co., and a number of its directors, including Vice-President Archibald, have been inspecting the wells in Wayne county, which are now producing about 350 barrels per day. A dispatch from Monticello, Ky., states that the avowed purpose of the Standard people is to buy out the interest of the Kentucky Consolidated Oil & Natural Gas Co. in this county, and construct a pipe line at once from Slickford to some point—probably Burnside—on the Cincinnati Southern Railroad. That the Standard proposes to make investments and boom the oil business here is believed to be a fact, as its representatives have made a \$10,000 deposit as evidence of good faith, and have on several previous occasions sent representatives here to investigate the field and make a report on every phase of the oil interests.

THE Hardwick Lead Co., which has just erected smelting works on an extensive scale near Cleveland, Tenn., has begun operations, employing about 100 men. The first day about 5000 pounds of lead were smelted. The company owns an extensive bank of lead ore in Church valley.

SELLING BALTIMORE SUBURBS.

800 Acres Valued at \$1,000,000 Sold for Development Purposes Since March 1.

The remarkable activity during the last few months in real estate in the suburbs of Baltimore has attracted much attention from operators in realty and a few others who have been noting the increasing demand for property of this character. Few, however, have any idea of the acreage which has changed hands and the amount realized. The following table sums up the more important transactions since March 1 of this year:

Location.	Price.
Hampden—Thirteen acres to Charles E. Cunningham.....	\$65,000
Catonville—Eighty acres (Cohen's estate) to D. M. Newbold and others.....	18,000
Walbrook—Forty-seven and a-half acres to Selbernham Heights Co.....	40,000
Wetheredville—Sixty-five acres to A. W. Cooke.....	25,000
Walbrook—One block of lots to L. N. Frederick.....	15,000
Catonville—Lyndhurst estate, 286 acres, to E. Stabler, Jr., Joshua Horner and others.....	125,000
Walbrook—Mount Carroll tract, forty-six acres, to H. Webster Crowl and others.....	171,000
Llewellyn, near Roland Park—Twenty acres to Mrs. Michael Jenkins and others, about.....	25,000
Sherwood, near Towson—Walnut Hill tract, thirteen acres, to Edward W. Levering.....	7,500
Govanstown—"Evesham" estate, fifty-eight acres, to A. D. Clemens, Jr.....	40,000
Catonville—"Wayside" estate, twelve acres, to Henry E. Carr.....	18,000
Lake View, near Lake Roland—Twenty-five acres to T. W. Marriott.....	13,600
Lake View, near Lake Roland—Four acres to Miss Rebecca Freeman (part of above).....	7,500
Garrett estate, Merryman's lane, near Roland Park—100 acres to Richard T. Capron over.....	100,000
Catonville—Part of C. J. Baker estate, fourteen acres to Miss Mary Garrett, Linden and North avenues—Two lots to F. E. Yewell.....	8,500
Druid Hill avenue—Lot 100 by 110 feet to J. B. Yeatman.....	71,500
Guilford avenue—One block to E. B. Hunting.....	5,000
North avenue near Walbrook—Forty-six lots (building) to Boston Fear, C. E. Spaulding, F. Bergner & Co. and others.....	28,000
Park avenue and Callow avenue—1000 feet front by 120 feet deep (part of Bond estate) to Joseph M. Cone.....	24,500
Bolton avenue near Druid Hill Park—Lot of 230 feet to Charles H. Quigley.....	60,000
West North avenue and Whitelock lane—One lot to D. M. Newbold.....	11,000
Warner street near Montgomery—One lot to Christian Dederer.....	10,000
Greenmount avenue corner Twenty-third street—One lot to C. E. Savage, 90 by 200 feet.....	21,800
Baker estate, Fulton avenue near North avenue, 554 feet of front lots to F. O. Singer.....	10,000
	17,000

A summary of these sales gives an aggregate of about 800 acres in and near the suburbs with a value of about \$1,000,000 or over at a conservative estimate. A large number of minor sales are of course not included in this list.

Gas at Fifteen Cents per 1000 Feet.

A test of acetylene, the new illuminant, which, it is claimed, will be largely used in place of ordinary gas, was recently given in Washington in the presence of a large number of spectators by Dr. J. J. Suckert, who entered into a history of the discovery and the characteristics of the new product. Mr. T. L. Wilson, of Spray, N. C., the inventor; Mr. E. N. Dickerson and Mr. F. L. Payson, of New York, were also present. Several chemical experiments were made, showing that the gas has a pungent odor, and that it burns with a clear, steady and penetrating flame. The four burners used gave sufficient light for the large hall, and the audience greeted the exhibition with cheers. The calcium carbide, which contains sixty-two and a-half parts by weight of calcium and thirty-seven and a-half parts of carbon, made by combining the two in an electric furnace, is a porous substance, dark brown of color, and giving off a pungent odor. Coal dust and other waste products of coal-mining are used for obtaining the carbon.

Dr. Suckert, in the course of his lecture, stated that in unfavorable locations the carbide had been produced for \$17 a ton, but it was believed that upon a larger scale and in a suitable location the cost can be reduced to \$5 per ton. At an

assumed cost of \$15 per ton an illuminating power equal to the ordinary city burner can be produced at a cost of fifteen cents per 1000 feet. Of the two methods of producing the gas in residences, one is by adding water to the carbide and conducting the gas to a large tank, where it can be stored, but the method employed by the company is the reduction of the gas to a liquid form under a pressure of forty atmospheres into steel cylinders with a capacity of three pounds weight, or forty-three and a-half cubic feet of gas. With the pressure used in the hall, each burner would consume 1.2 cubic feet per hour of sixty candle-power. The tanks are adapted for attachment to the service pipes in the cellars of structures, and can be changed at will.

The manufacture of this compound will form a new industry which may be established throughout the South.

Important, if True.

A dispatch from East St. Louis says that "a new substitution smelting and refining process in successful operation at the Denverside Smelting & Refining Co.'s works at East St. Louis has created no little metallurgical comment, owing to its simplicity and economical working of waste products from other smelting works. The Granby Mining & Smelting Co., of Granby, Mo., has shipped several carloads of its slag and by-products for treatment by this process, and satisfactory results were had in every instance; also James Long, of Potosi, Mo.; the Palmer Lead Co., of Palmer, Mo., and many others, who claim that their furnace slag can now be utilized and sold at \$250 per carload."

Good Work of a Commercial Club.

The recent annual meeting of the Birmingham (Ala.) Commercial Club developed some interesting facts. One of these was the success of a flour mill put in operation through the club's efforts. President Moore, in his report, said: "Two year's ago it was scarcely believed that a grist-milling plant could be run in this city in competition with those of the Northwest, but one of the largest south of the Ohio river was established, and its success is so great that the second has been built and is now in most successful operation." In many other cities where the people are paying for Western flour mills could be built and operated with as much profit as at Birmingham.

THE annual statistical report of the American Iron and Steel Association of Philadelphia for 1895, which is now ready for distribution, gives complete statistics of the production and prices of all the principal iron and steel products of the United States in 1894 and immediately preceding years, and also of the shipments and prices of iron ore; monthly prices of tinplates from 1890 to 1895; complete statistics for 1894 and previous years of United States' imports and exports of iron and steel; complete statistics of the construction of iron and steel ships in the United States in 1894 and immediately preceding years; complete statistics of immigration into the United States from the foundation of the government in 1789 to the present time; a record of the deaths of iron and steel manufacturers in 1894 and 1895; a careful review of the present condition of the iron and steel industries of the United States, etc. Price, \$3. or 12s. 6d., per copy.

THE bauxite deposits in Bartow county, Georgia, have attracted the attention of A. E. Hunt, of the Pittsburg Reduction Co., Pittsburg, Pa., and other parties engaged in aluminum manufacture, who are organizing a company which may erect a plant for reduction purposes in that county. The new corporation is to be termed the Georgia Bauxite Co.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 267.]

An Important Move in the Railroad Fight.

The most radical step yet taken in the fight between the Seaboard Air Line and the Southern Railway and Steamship Association was made last Saturday, when the Seaboard, through its attorneys, filed a bill against the association, which will test the legality of any organization of this kind. In this suit it is claimed that the circular issued by E. B. Stahlman, commissioner of the Southern Railway and Steamship Association, boycotting the Seaboard Air Line, is a direct violation of the act of Congress, entitled "An Act to Regulate Commerce and the Amendments Thereto," and that the same amounts to an unlawful conspiracy on the part of the defendants to obstruct the Seaboard Air Line in carrying on interstate commerce. It is said that "the purpose of this order is to drive the Seaboard out of business, to stifle competition and promote monopoly among members of the association, who have constituted themselves into a single organization to destroy competition and to pool business in said territory in violation of the interstate commerce act." It also claims that the defendants in enforcing this order are depriving shippers of their customary and established rights to route their own freight by carrying on an unjust discrimination. The Atlanta Constitution says:

"Paragraph nine sets up that since the 1st of March, 1895, when the boycott went into effect, the defendants have been discriminating against the Seaboard Air Line, where the service is identical to that rendered to its competitors, and that the defendants, urged, instigated, directed and commanded by said Stahlman, commissioner, have combined and conspired together to interrupt, destroy and break down the Seaboard Air Line's roads, deprive them of their business and prevent them from discharging their duties as common carriers and from competing for interstate commerce, all in direct violation of the law of the land and of the interstate commerce act.

"Paragraph ten calls attention to the fact that this order is to be enforced even by the receivers of the Federal Court, who are its officers, and who are especially bound to obey United States statutes, all because they are members of said association.

"Paragraph eleven analyzes the steamship agreement, and says, while its ostensible purpose is to carry into effect the interstate commerce act, its real purpose is to pool all business in the territory, surrender all right between its members to compete between themselves and to surrender all right to fixed rates to said association.

"Paragraph twelve further analyzes this agreement, and charges that it is intended to create a pool by a physical apportionment, and that no apportionment of business can be lawful.

"It then analyzes the process of allotment, and charges the whole to be in violation of the interstate commerce act.

"Paragraph thirteen charges that the chief end and aim of said association and the direct effect of its operation is to destroy independence of management, defeat competition and consequent cheapening of rates incumbent upon said carriers to maintain.

"This paragraph takes up the provision of the agreement about the committee of three; about the deposit of \$5000 as a guarantee that each subscriber will maintain rates fixed by the association's decrees, and discusses the system of fines provided for in the agreement, and charges that the same is a practical pool of freights through

an alleged system of fines, defeating competition and violating the interstate commerce act, and that the whole agreement is permeated by this illegal purpose and design; that said association enforces its decrees by boycotts similar to that inaugurated against the Seaboard Air Line, and that the further existence of said association and its conduct of its business is a menace to independent action by the roads in said territory in the discharge of their duty to the public, and that its existence is contrary to public policy, and should be enjoined.

"This paragraph says that said order is a boycott, and results in bottling up the Seaboard Air Line at Atlanta, except so far as the Western & Atlantic is enjoined; that the Seaboard Air Line is shut off from serving Jacksonville, Brunswick, Savannah and all the territory of south and middle Georgia and Alabama, and that said boycott not only injures the Seaboard Air Line, but has also been of great damage to the public which it serves, and has deprived the community along its lines of the benefits of its services as an interstate carrier, and crippled it in its usefulness to said communities, and the continuance of said order and its observance will work great and irreparable damage to the Seaboard Air Line and will continue said public injury.

"This paragraph further sets out that the public will be deprived of its services in handling melons, truck and fruits during the present season throughout said territory if said boycott is allowed to remain, to the great injury of the public and the damage of the Seaboard Air Line and the destruction of competition in handling the same, all of which is against public policy and creates great public inconvenience.

"The bill then winds up with the usual prayers for injunction and relief."

This suit is of far-reaching importance in railroad circles. If the position taken by the Seaboard people is sustained, it will doubtless mean the disruption on account of illegality of all organizations such as the Southern Railway and Steamship Association, and because of the magnitude of the matters involved its progress through the courts will be watched with unusual interest.

Judge Speer, before whom the suit was brought, has issued an order granting a temporary injunction against the boycott and requiring the defendants to show cause on the 30th of May, or so soon thereafter as counsel may be heard, why this injunction should not be made permanent. In the meantime all the railroads which are members of the Southern Railway and Steamship Association are temporarily "restrained from enforcing the order of E. B. Stahlman, commissioner, February 16, 1895, and from withdrawing through rates or proportions of through rates or through bills of lading placed from complainants and the lines operated by them, as afforded to them by said defendants prior to March 1, 1895, or as now afforded to other railroads competing with complainants for the same business to and from the same points."

The Ohio River Road.

At the annual meeting of the Ohio River Railway Co., held at Parkersburg, W. Va., the following officers were elected: President, W. P. Thompson; vice-president and general manager, George A. Burt; secretary, W. N. Chancellor; treasurer, W. M. Trevor; auditor, E. W. Warwick; superintendent, C. L. Williams; general freight and passenger agent, W. J. Robinson; general counsel, V. B. Archer; executive committee, W. P. Thompson, J. N. Camden, H. H. Rogers, C. M. Pratt and M. Colton, Jr.

The annual report shows that the gross earnings of the road during the year from all sources were \$712,430.92, a decrease of \$77,830.33 under the previous year. The

operating expenses for the year being \$435,468.08, as against \$378,534.16 for 1893, show a decrease of \$43,066.08, resulting in a decrease in net earnings of \$37,664.65 as compared with 1893.

THE SOUTH'S ROLLING-STOCK BILL

Nearly \$2,500,000 for New Locomotives and Cars—Over 100 Engines Ordered for Southern Roads Since January 1.

One of the best indications of the movement of business throughout the South is shown by the demand for rolling stock for the principal railroad lines. Since January 1 a large number of locomotives and cars have been ordered to be used in this section of the country, and the different engine and car-building companies have found the South a good customer.

The MANUFACTURERS' RECORD herewith gives a summary of the larger orders, which show how the Southern lines are improving their service.

The Richmond (Va.) Locomotive Works is now filling an order for twelve first-class locomotives for the Seaboard Air Line, also one for fourteen of the same type for the Southern system. The two orders alone amount to nearly \$300,000. It is also building several engines for the Chesapeake & Ohio, and three of the largest class for the Atlanta Exposition.

The Selmer & Tennessee River Railway Co. is about to purchase two locomotives, three passenger and express cars and several freight cars through George H. Bunch, its agent at Memphis, Tenn.

The Pittsburg Locomotive Works is to build twelve engines for the Trinity, Cameron & Western Railway, under construction in Texas.

The Atlantic Coast Line has added several Schenectady locomotives to its equipment for hauling its New York and Florida express trains.

The Baltimore, Chesapeake & Atlantic, of which N. P. Bond, at Baltimore, is vice-president, is to add two locomotives and a solid train of chair and ordinary coaches for use on its Ocean City route.

The St. Louis, Avoyelles & Southwestern Company, building its line in Louisiana, will buy two locomotives, four combination cars and twenty-four box and flat cars. W. J. Hilands is vice-president, at Cleveland, Ohio.

The Illinois Central has ordered thirty-five cold-storage cars for fruit transportation.

The Texas Midland, of which E. H. R. Green, at Terrell, Texas, is president, has purchased one locomotive and sixty-six freight cars, and will add two more locomotives to its rolling stock.

The Missouri, Kansas & Texas has given orders for 2000 freight cars, of which 1500 are box and 500 coal cars. The company has also ordered nine Baldwin and five Brooks locomotives, and contemplates having thirteen more built. This is the largest order which has been given within the past year by any corporation in this country. Thomas C. Purdy, of Parsons, Kans., is vice-president in charge of the Southwestern division of this system.

The Houston & Texas Central has purchased six passenger cars.

The Gulf & Interstate road (Texas) has bought one locomotive and several freight cars.

The San Antonio & Gulf Shore Company (Texas) has bought two standard-gage locomotives and several box and flat cars.

The Southern Pacific (Texas division) has purchased two Schenectady locomotives of the largest type for passenger service.

The Augusta Southern Company (Ga.) will buy complete equipment of locomotives, passenger and freight cars for a standard-gage railway. James U. Jackson, at Augusta, Ga., is president.

The Texas & Pacific will have 300 freight

cars built. L. S. Thorne, at Dallas, Texas, is general manager.

The Baltimore & Ohio has added 500 coal cars to its rolling stock and has placed an order for 300 refrigerator cars, also two 95-ton electric locomotives—the largest ever built.

The Southern Railway Co. is having 150 fruit cars built.

The Louisville & Nashville has ordered 250 box cars and 150 coal cars.

The Southern Pacific Company has purchased twelve first-class passenger coaches for use in Louisiana and Texas.

Altogether the amount of new equipment ordered and to be purchased by the Southern lines referred to is as follows:

Locomotives, electric, two; steam, 101. Passenger cars, thirty-six. Freight cars, about 3500.

The total value of this will aggregate about \$2,500,000 as the South's rolling-stock bill during the last few months.

The New Florida Line.

The Fernandina Western Company, which is interested in building a line from Fernandina, Fla., to a connection with the Georgia Southern & Florida, has elected Samuel A. Swann, president; William R. Kelly, vice-president; E. W. Bailey, secretary; Fred W. Hoyt, treasurer; John G. McGiffin, general manager.

The present company has altered the route somewhat from that first outlined in the MANUFACTURERS' RECORD. The new road will run over the Florida Central & Peninsular tracks from O'Neil's Station to Fernandina, a distance of about seven miles; then due west to Hilliards, on the line of the Savannah, Florida & Western. From there it will proceed to Jasper, tapping the southern end of the Okefenokee swamp en route, and will be ninety miles in length when completed. The Fernandina Western will have a 10-mile connection from its main line to Camp Cornelia, on the Okefenokee swamp, which is to be built by the Suwannee Canal & Construction Co., of which Harry Jackson, of Atlanta, is president. It will also reach a 30-mile road already built and used by Brooks Bros. for their extensive mills at Camp Pinkney and Traders' Hill. The latter runs due north and south through a very fine timber section, and will be an important feeder for the new road.

Southern Roads in New Hands.

Two important Southern roads—the Georgia Southern & Florida and the Savannah, Americus & Montgomery—have been purchased by their bondholders and will be reorganized in the near future. While the Georgia Southern & Florida people have not selected all their officers, the MANUFACTURERS' RECORD learns that Mr. W. Checkley Shaw, of the bondholders' committee, will become president.

It can be said on the best authority that the Seaboard Air Line will not absorb it, because the route to Florida by way of the Georgia Southern & Florida would be too "roundabout" to allow competition with the present Florida trunk lines from the North. There is a possibility that the road may become a branch of the Plant system or of the Florida Central & Peninsular, if either company is willing to take a majority of the \$4,000,000 in 5 per cent. bonds to be issued by the new company in reorganization.

Bondholders of the Savannah, Americus & Montgomery have had a difference of opinion as to the policy of the new company, but it is understood that the plan advocated by Messrs. John Skelton Williams and J. W. Middendorf, of the committee in charge, will be adopted. This is to issue \$5,100,000 in 50-year 5 per cent. bonds on the completed system, which is 340 miles in length. This issue will pay for building an extension to Savannah

seventy-five miles long, if deemed necessary. There is a possibility that fifty-eight miles of the Savannah & Western can be secured between Meldrim and Lyons, leaving only seventeen miles of actual construction to be done. The Savannah, Americus & Montgomery would then be the shortest route between Savannah and Montgomery, Ala.

Both of the lines traverse prosperous sections of the South, and have shown by their increased earnings that they can be made profitable investments when economically and properly managed.

Annual Meetings.

THE stockholders of the Philadelphia, Wilmington & Baltimore division of the Pennsylvania system have re-elected as president G. B. Roberts; secretary, Robert H. Groff; treasurer, Robert M. Smith.

THE Missouri, Kansas & Texas re-elected its present officers at the annual meeting held at Denison, Texas. They are Henry C. Rouse, president; Colgate Hoyt, first vice-president; T. C. Purdy, second vice-president; John M. Simpson, third vice-president, and E. D. Halstead, secretary and treasurer.

THE stockholders of the Ravenswood, Spencer & Glenville Railroad have elected William Woodyard, J. L. Armstrong, A. G. Bailey, P. C. Adams, D. W. Chapman and R. T. Wetzel as directors, and the following officers: President, William Woodyard; vice-president, J. L. Armstrong; secretary, D. W. Chapman; treasurer, W. M. Trevor; general manager, George A. Burt. The Ravenswood, Spencer & Glenville Railroad is a prosperous branch of the Ohio River road in West Virginia.

AT the recent annual meeting of the Port Royal & Western Carolina, held in Augusta, Ga., Mr. J. B. Cleveland reported that the physical condition of the road had been improved by the expenditure of \$40,000 in various ways during the year. The company elected as president H. M. Comer; secretary, E. Workman; directors, W. L. Mauldin, E. F. Verdery, J. H. Alexander, J. B. Cumming, W. L. Gray, John Fergerson, T. J. Moore, S. Bleckley, J. A. Barksdale, J. J. Phiss, J. A. Brock, J. P. Doughty.

A New Steamboat Line.

The establishment of a line of steamers to run from points on the Rappahannock river to Norfolk has been determined upon. The MANUFACTURERS' RECORD announced several months ago that such a line was thought of by the Weems Company, of Baltimore. Heretofore Baltimore has secured most of the business from this territory.

To Buy the Bridge.

A dispatch from Louisville, Ky., states that the Baltimore & Ohio Southwestern Company has secured a majority of the bonds of the Kentucky & Indiana Bridge Co. and will buy the bridge over the Ohio river when it is sold at foreclosure sale. This will give the Baltimore & Ohio an entrance direct into Louisville.

Railroad Notes.

MR. A. A. AVELLHE has been appointed agent at Savannah of the Florida Central & Peninsular.

MR. A. J. DE RUSSY has been appointed division freight agent of the Texas & Pacific at New Orleans.

THE Vicksburg Street Railway has been sold to C. F. Tag & Son and J. H. Benedict, of New York, for \$17,500.

HENRY TERRELL has been appointed permanent receiver of the unfinished San Antonio & Gulf Shore road at San Antonio, Texas. Mr. Terrell has appointed R. A. Andrews as general agent.

THE property of the Atlanta Traction Co. has been sold under orders of the

United States Circuit Court to a Baltimore syndicate consisting of W. Checkley Shaw, Richard D. Fisher and H. J. Hilken. The price paid was \$150,000. They represent the bondholders of the road.

MR. H. MITCHELL LITTELL, general manager of the New Orleans Traction Co., which controls about 120 miles of the street railways in that city, has resigned to accept an offer to go to Brooklyn in the same capacity.

ARRANGEMENTS are being made to introduce the electric postal cars in New Orleans. Several sub-stations will be established in various parts of the city, which will receive their mail from the main post-office by trolley mail cars.

THE Order of Railway Conductors at its recent session in Atlanta re-elected E. E. Clark grand chief conductor without opposition; C. H. Wilkins, of Grand Rapids, was re-elected assistant grand chief conductor; Martin Chancey, of Ohio, was elected grand secretary and treasurer to succeed W. P. Daniels.

RECEIVER JOHN R. YOUNG, of the Atlantic Short Line, has been directed by Judge Speer, of the United States Court, to sell the property of that road under a decree granted in favor of the Central National Bank of New York on June 12 at Savannah, Ga. The price fixed for the property is \$200,000 cash, or \$255,000 in deferred payments, with good security to be approved by the court. The Macon, Dublin & Savannah Company has signified a desire to secure the property. The road is an unfinished line projected from Macon, Ga., to Savannah.

FOR SOUTHERN IMMIGRATION.

Northern and Southern Railway Companies to Unite to Promote It.

A meeting has been held in Chicago during the present week in the interest of immigration to the South, which will doubtless tend to increase greatly the number of homeseekers in this direction. The attention of officials of Southern railway lines and of systems leading from the North and West southward has been specially called to the importance of this movement. Consequently the Chicago meeting has called together representatives of the principal Southern and tributary roads. Among the companies interested are the Central of Georgia; Cincinnati, Hamilton & Dayton, "Big Four," Florida Central & Peninsular, Seaboard Air Line, Georgia Southern & Florida, Mobile & Ohio, Louisville & Nashville, Southern, Southern Pacific, Queen & Crescent and Plant system.

The call for the meeting was signed by Northwestern agents of several Southern lines and General Passenger Agent Stone, of the Chicago & Eastern Illinois. The main object of the meeting is to unite on some system for inducing immigrants to come South, the sentiment being that the Southern section of this country today occupies relatively the same position held by the great Northwest twenty-five and thirty years ago, and it is believed that if the people interested in the different sections of the South could have an understanding with the various transportation lines, and some effort in the direction of unity and a common understanding be reached, large results will necessarily follow.

Sure Indication of Progress.

The weekly reports of the Baltimore MANUFACTURERS' RECORD, one of which was published in the Enquirer-Sun yesterday morning, bring the most encouraging information, especially from the South. For many weeks now it has sent out a record of wonderful industrial improvements in almost every section, in every Southern State, showing large investments in various profitable and important enterprises.—Columbus, (Ga.) Enquirer Sun.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

Another Cottonseed-Cleaning Process.

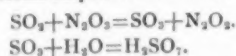
Editor Manufacturers' Record:

I have read with much interest the several articles which have appeared from time to time in your excellent paper upon the advantages accruing to the cottonseed handler in a method by which the lint may be removed from the seed previous to treatment for oil or shipment abroad, and am glad that this subject is again receiving proper attention. The case has been so well stated in your columns that I feel there is nothing left for me to add, but I would like to call the attention of those interested to a process of removing the lint that has many features to commend it. Without wishing to detract in any way from the merits of the mechanical method of removing the fibre, for there is room for both methods, the difficulty of accomplishing it in this way must appeal to everyone who has endeavored to clean a single seed by means of a penknife. It can be done, of course, but if any portion of the seed remains untouched or insufficiently treated, the object desired has not been accomplished. Having given this subject some study, I had come to the conclusion that mechanical delinting could not be accomplished. From the announcements in your columns, however, I am ready to believe that I was mistaken, and that delinting by purely mechanical means is now an accomplished fact, but at what expenditure of horse-power per ton of seed treated or time does not appear.

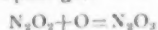
The process to which I wish to call particular attention is one invented jointly by Prof. Wm. L. Dudley, professor of chemistry at Vanderbilt University, and myself. It is a chemical process depending upon the mutual action of sulphur dioxide (sulphur fumes) and nitrogen trioxide upon the cellulose of the fibre.

The process is briefly this: A large wooden or other tank with perforated false bottom, a small pressure blower and a pyrites or sulphur blower comprise the apparatus required. The nitrous fumes are first forced up into the seed which have been dumped upon the false bottom of the tank so that they completely fill the lower foot or two of the seed. The sulphur fumes and air are now blown in, and these gases displace the nitrous fumes and force them ahead through the overlying seed. Neither the nitrous fumes nor the sulphur gas have any action either upon the seed or upon the fibre, but jointly they act energetically. Along the line of junction between the two gases there will be a zone of chemical action, which will move upwards through the seed faster or slower, according as the admission of sulphur dioxide and air is fast or slow, until the nitrous fumes emerge from the top of the tank and are absorbed for reuse.

The chemical action taking place is similar to that occurring in the manufacture of sulphuric acid in the leaden chamber. In the latter operation steam is also admitted, and a very little nitrogen trioxide is generated. The latter acts merely as a conveyor of oxygen from the atmosphere to the sulphur dioxide, oxidizing it to sulphur trioxide, which, uniting with steam, forms sulphuric acid thus:



The nitrous fumes deoxidized in the operation take up more oxygen from the air, becoming nitrogen trioxide again, and ready to again perform its function of oxidizing the sulphur gas:



Thus theoretically there is no consump-

tion of nitrous fumes, and one molecule of the latter would be capable of oxidizing an indefinite quantity of sulphur dioxide to sulphur trioxide. Practically, there is a slight loss which has to be replenished, but this is so insignificant as not to cut much of a figure in the cost of production of acid.

In our process we admit no steam, but the SO_2 formed at the juncture of the two gases extracts the elements of water from the cellulose, destroying it as such, and converting it into a substance not differing to the eye from cotton fibre, but which falls to an impalpable powder upon the slightest friction. The fibre is not carbonized as would be the case were it treated with sulphuric acid, but remains white, and, when the process is complete, only requires for its removal such friction as can be given it in any of the well-known grain-cleaning machines.

The nitrous fumes emerging from the top of the tank may be led directly under the bottom of a second tank in which any of the well-known absorbents are placed, from which it is again liberated by the passage of the sulphur gas for the next operation.

In this way the nitrous gases are used over and over again with practically no appreciable loss, and the articles consumed in the process are simply sulphur or iron pyrites and air.

The action of the gases is most thorough, since they permeate through every portion of the fibrous envelope, which liquids would not do, and can be prolonged or hastened, as the quality of the seed may require, by simply regulating the supply of sulphur gas.

If the process be rapid, the seed come out of the cleaner black, and not unlike in appearance the Egyptian seed. The nitrous gases, however, are a strong bleaching agent, and, if left in contact with the seed for a time, bleach them to a light-tobacco color. This is considered one of the great advantages of the process—that, when desired, the seed may be bleached by simply lengthening the operation, and the meal resulting will be nearer the color of that produced from decorticated seed. The oil, too, resulting from the bleached seed is brighter than that produced from the unbleached undecorticated seed, and will thus more nearly meet the demand for crude oil than is possible from any other process.

The other advantages claimed for this process are the simplicity of the apparatus, all of which, except the blower, can be built anywhere by local mechanics, the rapidity and consequently large output per unit, the absolute certainty and uniformity of results and the small expense of the process.

NELSON W. PERRY.

The Market for Cottonseed Products.

NEW YORK, May 21.

The market for cottonseed oil is firm, with an upward tendency. The demand from Germany has subsided, with the prospect of resumption, however, before the new tariff enactments go into effect on July 1. More detailed communications have been received concerning the alleged uniform imposition of duties on the various grades of oil imported by Germany, and which divulge the pleasing fact that the chemically-prepared oils, intended for other than edible purposes, with regard to the impost rates, remain unchanged. A fair demand obtains for prime yellow for France and Italy, but bids of the latter are weak, and trading is held in check as a consequence. English shippers are bidding 26½ cents for good off-grade yellow, with 26½ cents asked, with light available supplies. During the opening of the week a fair volume of white oil was sold for shipment to France. Local consumption is of an irregular character, primarily owing to the depressed condition of lard values. An im-

provement in the latter will assuredly affect oil interests favorably. Crude in bulk is on offer at from 18 to 20 cents in large quantities, the higher quotation being for locations within convenient transportation hither. For a choice variety of crude in barrels probably 24½ cents could be secured, but a scarcity still obtains with regard to that grade, while 22 cents is asked for off-grade. It is not possible to buy butter oil under 27½ cents, while 28 cents is asked. White oil exported to France and Germany was on basis of 30 to 31 cents per gallon. The volume of exports for the week fell below that of the previous week, the heaviest shipment being 900 barrels to Marseilles. Sales to Holland have for the while practically ceased, while a peculiar feature of the business, and which to an appreciable extent explains the situation, with regard to the depressed demand from Germany, consists in the fact that the latter country is purchasing supplies of butter grades from the Rotterdam accumulations, and at relatively high prices. Stocks of superior grades are therefore rapidly disappearing and a further advance is anticipated. English oil is selling in London on a parity with the American product on offer in Rotterdam, notwithstanding the well-known superiority of the latter. This circumstance would point to higher values in the near future. The following sales were reported: 200 barrels of off-grade crude at 21½ cents; 100 barrels crude, 23 cents; 300 barrels choice yellow, 28 cents; 1800 prime yellow, 27½ cents; 100 barrels yellow at 27 cents, and 200 barrels white at 30 cents. The ruling quotations are: Crude, prime, in barrels, 23 to 24 cents; off-grade crude, 20 to 22 cents; loose at the mills, 18 to 20 cents; summer yellow, prime, 27 to 27½ cents, and off-grade, 26 to 26½ cents; butter oil nominal at 28 cents; white, 29½ to 31 cents, and soap stock, ¾c. to 1c. per pound.

Cake and Meal.—The chief exports during the week have been 35,000 bags meal to Hamburg, 2800 bags meal to Antwerp and 550 tons cake and meal to Liverpool. No receipts at Eastern points are reported, the light available stocks at this market being quoted at \$19 to \$20 per ton, spot and also to arrive. At New Orleans cake and meal are quoted at \$19 per long ton f. o. b. American cotton cake in England is in active request, which is doubtless owing to the advancing grain market and improvement in the value of cattle, the rapid depletion in stocks strengthening and advancing values as a consequence. The pleasing reports arriving concerning the successful termination of the season's run with numbers of the mills, dividends being of a decidedly satisfactory character, notwithstanding the inauspicious circumstances under which operations commenced, together with the fact that the number of new mills projected is increasing, while several are now in actual course of construction, indicate in an unmistakable manner the rapid development of the cottonseed-oil and cake manufacturing industry.

Money in Cottonseed and Rosin.

In a recent review of the profits and extent of oil manufacture and its products in and near that city, the Savannah News publishes the following:

"Savannah has three extensive oil works—the S. P. Shotter Company, the Southern Cotton Oil Mills and the Tide Water Oil Co. The aggregate capital invested in these plants is not less than \$300,000. The two plants now in operation give employment to 140 hands; the wages paid annually are \$40,000; the number of people dependent for a living on the industry is 500, including families of employees. The Southern Cotton Oil Mill represents an investment of about \$125,000. In some years the company pays more, in some years less than bank rates of interest; on the average it pays more than 8 per cent. The cotton-

seed milling season lasts six or seven months, and the mills are run night and day during that time, employing 100 hands, twenty of whom are skilled mechanics. The weekly pay-roll reaches about \$700. From 12,000 to 14,000 tons of cottonseed are annually consumed in the plant.

"The S. P. Shotter Co. is an incorporated company making rosin products, with a paid-in minimum capital of \$100,000, with the privilege of increasing to \$250,000. The News has no means of ascertaining the exact information in regard to the earnings of the company. The business was started in an humble way, and it has been phenomenally successful—so successful, in fact, that the Standard Oil Co. is a heavy stockholder in the company now. The plant is an extensive one, having some eighteen or twenty stills. As the crude oil has to be repeatedly redistilled, refined and separated according to its specific gravity, probably five stills only are engaged in the actual rosin distillation. Each still usually holds forty barrels. The average day's work would, therefore, be a consumption of 200 barrels of low-grade rosin, or 5000 barrels per month, or 60,000 barrels a year. Rosin is capable of yielding from 75 per cent. to 85 per cent. in merchantable products, such as rosin spirits, rosin oil of various grades and residual pitch. The output of the plant is, therefore, not less than 50,000 barrels a year of finished products. It is claimed that rosin oil can be produced at a cost of six to ten cents per gallon, according to the amount of redistilling or refining it has been subjected to. The market prices range from nine to eighteen cents per gallon, according to grade.

"Very little is known in the South as to what technical purposes rosin oil is put. It will, therefore, be of interest to enumerate the principal products in which it is a large component. If ten barrels of a certain grade of rosin oil be boiled together with one barrel of lime and about six or seven barrels of water for several hours, a butter-like mass will result, which is known as the common axle grease for which three to six cents per pound is paid. This grease, or rather lime soap, is an excellent lubricator, and forms the basis of all lubricating compounds. The common railroad-car grease consists mainly of this compound, only black Virginia oil is largely added. The cheaper grades of printers' ink consists of a varnish made from rosin oil, rosin soap, rosin and lampblack. Nearly all varnishes contain more or less rosin oil. Linseed oil, train oil and numerous other oils are usually sophisticated with rosin oil. Brewers' pitch is a mixture of the residue from rosin-oil stills, common rosin and pitch resulting from the distillation of wood tar. Shoemakers' pitch has the same components, only in different proportions. Rosin oil is also largely used in manufacturing cheap soaps. Cheap paints all contain rosin oil to a greater or lesser extent. In itself it is an excellent lubricating oil, as it is free from acid or corroding substances. A still better lubricating oil is obtained by mixing rosin oil with tallow or bone fat and heavy mineral oils obtained as by-products of coal-oil distillation."

Cottonseed-Oil Notes.

THE cottonseed-oil mill at Alvarado, Texas, has had a very successful season, having worked up 11,000 tons of seed. The company has added six new tank cars. The mill will close down about June 1.

THE plan for reducing the capital stock of the Southern Cotton Oil Co. to \$2,000,000 has been favorably received by the stockholders, and between 80 and 90 per cent. of the stock has already given consent.

A CALL was issued last week for a meeting of the citizens of Gonzales, Texas,

for the purpose of reorganizing a joint stock company with a capital stock of \$50,000 for the purpose of erecting a cottonseed-oil mill at that place.

THE stockholders of the Chattanooga Cotton Oil Co., at Chattanooga, Tenn., have decided to enlarge their plant. The capacity of the mill will be increased to a total of seventy-five tons per day; its former capacity was fifty tons. The work will begin in a few days and will be hastened to an early completion.

THE International Cottonseed Oil Co. was organized at Selma, Ala., on the 18th inst. with a capital of \$50,000. The officers of the company are: Ernest Lamar, president; C. W. Harper, vice-president; Law Lamar, treasurer. The mill will be in operation by September 12, with a capacity of eighty tons per day.

The subscribers to the capital stock of the proposed cottonseed-oil mill at Victoria, Texas, met on the 13th and effected a temporary organization. Two committees were appointed, one to obtain a charter and the other to correspond with the manufacturers of oil-mill machinery regarding the cost of plant, etc. J. M. Brownson is temporary chairman.

World's Iron-Ore Production.

Mr. John Birkinbine, of Philadelphia, has prepared for the division of mineral resources of the United States Geological Survey an exhaustive report of the iron-ore resources of the world, in which the production of the world of iron ore in 1893 is estimated at about 52,500,000 long tons.

The portion of this report relating to the United States shows that the total production of iron ore in this country in 1894 was 11,879,679 long tons of 2240 pounds, as compared with 11,587,129 long tons in 1893; this is an increase of about 2½ per cent. This production is only 73 per cent. of the maximum production of the United States, namely, 16,296,666 long tons, which was the output in 1892, but is slightly greater than that of 1893, the proportion in that year being 71 per cent. of 1892. This falling off is further shown by the statement that the average production for the years from 1889 to 1892, inclusive, was 15,360,482 long tons, while for the last two years it has been but 11,733,654 long tons, a difference of 3,626,828 tons. Of the classes of iron ore mined, the red hematite continues to be the leading variety, being about 79 per cent. of the total product, brown hematite, magnetic and carbon following in the order named, the last being only about three-fourths of 1 per cent. of the total product.

The number of blast furnaces in operation also shows an increase over 1893. The number in blast at the close of 1893 was 137; at the close of 1894, 185.

Twenty-four States produced iron ore in 1894, ranging in amount from 4,419,074 tons in Michigan, to 7915 tons from Maryland. Most of the increase noted above in production was in the Lake Superior region, Minnesota showing the greatest increase, from 1,499,927 tons in 1893 to 2,968,463 tons in 1894, ranking second among the iron-producing States, while in 1893 she was third. Michigan continues to be the largest producer, holding this rank for six years. Alabama has fallen from second place in 1893 to third in 1894; Virginia has also improved her standing, rising from fifth in 1893 to fourth in 1894, while Pennsylvania has fallen from fourth in 1893 to fifth in 1894.

In spite of the increase in production noted, the total value of the product was but \$13,577,325, or \$1.14 a ton, as compared with \$19,265,973, or \$1.66 a ton in 1893. Michigan also leads the country in the value of her iron ores; in 1894 they were worth \$5,844,955, while Texas foots the list with a value of \$11,521. The value of Maryland's output in 1894 was \$17,809.

TEXTILES.

A New \$500,000 Mill for Augusta.

Mr. James P. Verdery, president of the Enterprise Manufacturing Co., Augusta, Ga., writes to the MANUFACTURERS' RECORD as follows:

"At the request of our board of directors a call has been issued for a stockholders' meeting on June 15, to whom will be referred the advisability of increasing our capital stock for the purpose of enlarging our plant. It is the opinion of our board that we can with advantage increase the present plant by adding 40,000 spindles and 1000 looms. This increase of machinery would require our capital stock to be increased about \$500,000."

The action of the board of directors will doubtless be approved by the stockholders, and thus \$500,000 will be added to the cotton-mill business of Augusta. The remarkable success of the Enterprise Mill under Mr. Verdery's management will doubtless be repeated in the enlarged mill. This company now has 33,000 spindles and 900 looms.

Spinning Mills in the Orient.

The Department of State has received an interesting report from United States Consul-General Thomas R. Jernigan, of North Carolina, stationed at Shanghai, China, on our trade relations with that empire. Noting a falling off in the importations of domestic cottons from the United States, as well as Great Britain, Mr. Jernigan advances the opinion that the manufacture of cotton cloth by China and Japan is responsible for the decrease.

In 1863 the first spinning mill was erected in Japan with 5456 spindles; in 1883 there were sixteen mills with 43,700 spindles, and in 1893 there were forty-six mills with some 600,000 spindles. The statistics regarding the industry in China have not been published, but a conservative estimate is that the end of this year will witness 360,000 spindles, 3000 looms, besides numerous cotton gins ready to operate in fifteen cotton mills.

In Japan the mill-owner pays from eight to twenty cents per day in silver for mill hands, while in the United States, labor, he says, is paid for in gold. During 1894 one dollar in gold has been equal to two dollars of Japanese silver, which makes clear, according to his reasoning, that the mill-owner in the United States is paying twice as much for labor as the Japanese.

Mr. Jernigan says that he does not wish to intimate that the price of labor in the United States should be regulated by the price of labor in Oriental countries, but unless some standard of international value for the payment of labor is agreed upon, the products of the Oriental laborers will become a dangerous rival to that of the Occidental laborers. Silver, he says, is used by one-half of the world and gold by the other half, and while wages in one-half are paid in depreciated currency, and in the other half in an appreciated currency, a rivalry between the respective products of the labor of each is encouraged, with the advantage in the outset to the products of the laborers paid in depreciated currency, especially when the latter can supply his daily wants with such a currency, which he willingly receives and remains contented therewith. Such apparent advantage is no longer offset by the superiority of the machinery heretofore employed in manufacturing which was confined to the other half of the world now using gold. The same machinery is now used in China and Japan as in other countries.

Textile Notes.

Mr. F. A. VAUGHN, of Dadeville, Ala., is interested in the erection of a cotton mill.

MESSRS. D. A. J. BELL, W. J. Tolbert, W. B. Parks, G. W. Bussey and others are

endeavoring to organize a \$1,000,000 cotton-mill company at Parkville, S. C.

ABOUT \$80,000 has been subscribed to the proposed mill at Rock Hill, S. C., and organization will shortly be effected. Mr. R. S. Fewell is heading the enterprise.

THE Oakdale Manufacturing Co., of Jamestown, N. C., has let contract to the D. A. Tompkins Co., of Charlotte, for a 300 horse-power Corliss engine, boilers, etc.

THE directors of the proposed Abbeville (S. C.) Cotton Mill met on the 14th inst. and elected J. C. Klugh, president; G. A. Vanska, vice-president, and W. H. Parker, treasurer.

THE Columbia Manufacturing Co., of Ramseur, N. C., is making considerable additions to its plant. Mr. W. H. Watkins, the treasurer of the company, has placed orders with the D. A. Tompkins Co., of Charlotte, for Whiting spinning and drawing frames, looms and a 300 horse-power steam plant of high pressure boilers and compound engine.

THE Piedmont Manufacturing Co., of Piedmont, S. C., will put in 5000 spindles additional, together with cards, drawing, slubbing, speeders, warping, slashers, looms, etc.

THE Walhalla (S. C.) Cotton Mills, incorporated several months ago, has about decided on a 10,000-spindle plant. The main building is to be two stories high, 300x100 feet in size.

MR. JNO. H. MONTGOMERY, president of the Spartan Mill, of Spartanburg, S. C., referring to his company's new mill, states that it is to be a 30,000-spindle plant, and will be built next year.

THE Randolph Manufacturing Co., of Franklinville, N. C., has placed an order with the Lowell (Mass.) Machine Shop for the new addition to its plant. The machinery will include 3500 spindles, 112 looms, etc.

THE East Lake Woolen Mill Co. will erect its proposed \$75,000 plant at Rossville, Ga., and not at Chattanooga, Tenn., as was at first intended. Messrs. Campbell & Hutchinson, of Chattanooga, compose the company.

THE directors of the Elkin (N. C.) Cotton Mills held their annual meeting last week. The mills were found to be in a prosperous condition. W. A. Gwynn was elected president and T. J. Lillard secretary and treasurer.

THE Long Island Cotton Mills, of Monbo, N. C., has recently placed orders with the D. A. Tompkins Co., of Charlotte, for Whiting and Kitson machinery, consisting of spinning, twisting, drawing, roving, frames and pickers.

THE J. Snow Hardware Co., of Tuscaloosa, Ala., intends to put in 2100 spindles for the manufacture of yarn goods. Mr. J. W. Sanders, of the firm, will visit Lowell, Mass., with the purpose of placing an order for improved machinery.

A BRICK building three stories high, 200x100 feet, will be erected for the new \$200,000 cotton mill at Stice's Shoal, N. C., projected by A. C. Miller, of Shelby, and others. Work will possibly be commenced within thirty days.

THE cotton mill at Cedartown, Ga., is to be in operation again, a new company having just been incorporated for that purpose by Messrs. Charles Roberts, Thos. Adamson and Charles Adamson, under the name of the Cedartown Cotton Manufacturing Co. The capital stock is placed at \$18,500.

THE stockholders of the Cherokee Falls Manufacturing Co., of Blacksburg, S. C., held their annual meeting last week. Most of the stock was represented, and the meeting was very harmonious, and the progress of the new mill is very satisfactory. The building is under cover and partly ready for the machinery. It is thought that

under favorable circumstances everything will be in readiness to start the machinery by the last of July.

MR. D. E. CONVERSE, president of the Clifton (S. C.) Manufacturing Co., and his superintendent, J. E. Shea, have returned to Clifton after a two weeks' trip North ordering machinery for the new Clifton Mill No. 3. They ordered Kitson Machine Co. (Lowell, Mass.) pickers and cotton-opening machinery.

THE Erwin Cotton Mills, of Durham, N. C., will erect a new building 460 feet long, seventy-five feet wide and two stories high. In the present building they are now running 375 looms, and when the new one is completed it is proposed to make this number 1000. This will give employment to several hundred new hands.

THE Calhoun Cotton Mills, of Clemson College, S. C., noted last week as incorporated, will formally organize shortly and commence to build. A site for the proposed plant has been selected on the Seneca river and steam is to furnish the power. Mr. A. Johnstone, of Newberry, will probably be chosen president, and shares are to be paid for on the instalment plan.

THE additional machinery to be put in by the Enterprise Mills, of King's Mountain, N. C., will consist of 2500 spinning spindles, 1500 twister spindles, 100 horse-power boiler and machinery and supplies to match. None of this machinery has been purchased yet. Mr. I. E. Falls is treasurer of the company.

THE machinery has arrived at Thomasville, Ga., for the knitting mill that is to be established there by Mr. R. C. Rightmire. The mill has already an order from one concern for 8000 dozen hose, and will begin the delivery of these goods by June 1. Employment will be afforded to from thirty-five to fifty hands, and half-hose and underwear will be produced.

THE Millfort Manufacturing Co., of Fort Mill, S. C., has twenty-eight old-style Franklin cards whereon on an average eighty pounds of stock is carded per day. Here until recently the Crompton loom has been doing all the weaving, but now the Whiting Machine Co., of Whitinsville, Mass., has placed twenty looms, all of which are not yet started up, and in the course of a month sixty more will be added, whereon 32 and 36-inch sheeting will be woven. S. D. Eubanks is overseer of the weaving.

WORK has been commenced on the Henrietta (N. C.) Mills new plant, and it is to have a main building four stories high, 108x437 feet, with two extensions, one three stories high, 70x85 feet, and the other four stories high, 70x85 feet. The stockholders met on May 10 and decided to build a larger plant than at first stated; the mill when completed will have a capacity of 30,000 spindles. The dam is to be twenty-seven feet high and 400 feet long, with canal leading to the wheel 1000 feet long and forty feet wide.

THE recent purchasers of the Hermitage Cotton Mill at Reidsville, N. C., have started up 2800 of the 6000 spindles in the plant; the balance they have thrown out. The purchasers have reorganized and obtained a charter as the Edna Cotton Mills Co., and the final details and election of the officers will be arranged for on June 1. It has been decided that the mill is to be enlarged into a 15,000-spindle one, weaving all the yarns therefrom into thirty-six and forty-inch sheetings. None of the machinery has been decided on, and they will therefore be in the market for 12,000 spindles, 400 looms and other machinery. The present factory will be raised one story and several additions will be made. The stockholders are Howell, Orr & Sanders, of Charlotte; A. H. Motley, of Reidsville, and Messrs. Pace and Forbes, of Richmond. Mr. Motley will probably be secretary and treasurer, and C. Clarke continued as superintendent.

During the current month the volume of business in lumber and timber in this market has been of fair proportions, and aside from local disturbances business may be written satisfactory. The trade in hard-

wood is of course not as large this month as in April. Furniture dealers and others are supplied, having placed their orders in the early spring. The demand for wagon stock and cabinet woods is fairly active, and the local trade is said to be in good shape. The developments of the past few days seem to indicate that the strike will be declared off, so that builders will soon be in the market again. The local pine trade has suffered much more than that of hardwood, but business, notwithstanding this drawback, has continued of fair volume. Both quartered and plain oak are in good demand, with stocks light and hard to obtain, while prices are generally firm. Poplar is not moving as free as it did earlier in the season, but choice stock is in demand and receipts are readily taken on arrival. There is considerable going into the yards to be piled for future orders. Ash is moving freely and thick stock is in good demand, while prices remain firm, holders having great confidence in higher prices in the near future. There is a moderate demand for cottonwood, with prices steady and stocks not excessive. Other woods are moving freely, but the aggregate volume of trade in this line is not as large as could be desired. There has been some improvement in the sash and door trade during the past week and orders are coming in freely, but are not large in size. The local strikes have affected this branch of the industry to a considerable extent, but as matters will soon be adjusted, business is expected to be quite active. The late advances are well maintained, and no cases are reported of cutting in prices. The local lumber statistics for the past week place the receipts by rail at 1363 cars, against 873 cars for the corresponding week last year. The receipts from the lower rivers amounted to 1,607,000 feet, against 361,000 feet last year; the shipments for the week 664 cars.

Southern Lumber Notes.

THE schooner Mary A. Hall cleared from Fernandina, Fla., on the 16th inst. for New York with 300,000 feet of lumber.

THE new saw mills, planing mills, sash and door factory of Jesse Thompson & Co., of Swainsboro, Ga., are nearly completed, and will be in active operation by July 1.

THE Lintonio Lumber Co. has been organized at Yazoo City, Miss., with an authorized capital stock of \$50,000, and will erect a planing mill and woodworking plant.

THE Goddard Lumber Co., at Logtown, Miss., after a shut-down of nearly five months, has commenced work again with a good number of orders for pine lumber for local shipments.

THE following vessels were loading lumber at Brunswick on the 18th inst.: Schooners Melissa A. Willey and Susan N. Pickering for Boston, and schooner Anna Pendleton for New York.

THE United States Leather Co., at Chattanooga, Tenn., has let contract to the Burford Lumber Co. to furnish 300,000 feet of long-leaf pine lumber to be used in the construction of building for tannery plant.

A LARGE party of woodcutters from Fort Valley are getting out timber from Chickasawhatchee swamp near Dawson, Ga., to be used in the manufacture of boxes for the shipment of fruit. A poplar tree was cut down a few days ago that netted 2200 feet of lumber.

THE Boston Lumber Co. has commenced the erection of one of the largest saw mills in north or central Louisiana two miles from Guyetown, on the Houston Central, Arkansas & Northern Railroad. The mill will be run under the management of Col. J. W. Behan, of Texas.

A SAILING vessel is now loading 250,000 feet of cypress lumber at Whitecastle, La., from the Whitecastle Lumber & Shingle

Co. She will sail direct to Philadelphia. The lumber trade of the parish is looking up, and timber lands are in great demand and are bringing good prices.

A CHARTER has been issued to the Bamberg Spoke & Handle Co., of Bamberg, S. C. The officers of the company are: John May, president; W. O. Tatum, manager and treasurer; L. T. Levin, secretary; directors, John May, W. O. Tatum, W. J. Murray and Lewis G. Wood.

IT is stated that the crate factory of G. B. Cearfoss at Hagerstown, Md., is at present enjoying a very large volume of business. Mr. Cearfoss has a large number of orders on file, and is making contracts for maple timber along the line of the Norfolk & Western and other Southern roads.

THE receipts of lumber at the port of New Orleans for the week ending the 17th inst., reported by Secretary Dirmeyer, of the Mechanics, Dealers and Lumbermen's Exchange, amounted to 2,053,000 feet, and since September 1 they aggregate 58,537,300 feet, against 55,258,813 feet for the corresponding period in 1893-94.

THE Houston Central, Arkansas & Northern Railroad has about completed half of a large contract made with the French Oak Stave Co., of Monroe, La., which was for the through shipment to France of 100 carloads of manufactured staves. They go direct to New Orleans, where they will be reshipped on vessel for export.

CHARLES D'AQUIN, of St. Martinsville, La., is fitting up the machinery for his furniture and sash factory. Mr. d'Aquin will make the manufacture of cheap furniture the principal feature of his business, on account of the facilities for obtaining the lumber necessary and the comparatively few factories of the kind in the South.

AMONG the shipments of lumber from the port of Jacksonville, Fla., last week were the following vessels: Steamer Cherokee with 300,000 feet of yellow pine and 150,000 shingles, and schooner Penobscot with 280,000 feet, both for New York; the schooner Priscilla Scribner cleared for Philadelphia with 340,000 feet, and the schooner J. S. Hoskins for Baltimore with 315,000 feet; the schooner Manual R. Cuza sailed for Jacmyl, Hayti, on the 16th inst. with 220,000 feet of yellow pine, and the schooner city of Baltimore for San Domingo with 184,897 feet of lumber and other merchandise.

A CALLED meeting of the directors of the Enterprise Lumber Co., Limited, of Nugent, La., was held at Alexandria, La., on the 13th inst. The company is composed of the owners of ten large saw mills near Alexandria, on the Houston Central, Arkansas & Northern Railroad. The various plants owned by the company have been much improved, and their shipments now amount to over 200 cars of lumber per month to the Northern and Eastern markets. The company has established a branch office at St. Louis and a lumberyard at Alexandria. The directors are: J. M. Nugent, president; W. L. Kidd, vice-president; E. J. Hardtner, secretary and treasurer; J. Q. Prestidge, J. W. Moore, H. E. Hardtner and T. L. Barron.

Never Had Such Demand for Land.

Mr. J. Walter Hosier, Suffolk, Va., who is selling farm lands in Tidewater and Eastern Virginia, in a letter ordering an addition to his advertisement in the *Southern States* magazine, says:

"I have never had so many correspondents from any one advertisement in all my life. It is remarkable what good you are doing."

Why not follow Mr. Hosier's example and advertise your town or your property in the *Southern States* magazine, published by the Manufacturers' Record Publishing Co., Baltimore, Md.

PHOSPHATES.

FLORIDA PHOSPHATES.

New Plants and New Companies.

[Special Correspondent, MANUFACTURERS' RECORD.]

ORLANDO, May 21.

The phosphate-mining plant contracted to be built by Messrs. Rerdell & Mayfield for the French capitalist, Achille Laurent, has been completed, and is now mining. The location is southwest of Istachatta, in Hernando county, on lands formerly owned by Dr. Temple. The material being mined is boulder rock and gravel, and the new plant enters its career with every prospect of success.

Two new plants to mine hard rock in Alachua county are reported this week, both being located in the Newberry district not far west of that town. Messrs. Carlisle & Baxter are erecting a double log washer plant of good capacity, and Mr. G. D. Younglove is putting up one of the finest plants in the State not far from the first-named plant. Mr. Younglove is a phosphate man of large experience in hard-rock mining, and will make a success of his new mine.

Application for a charter for a new phosphate company has been filed with the clerk of the Circuit court of Marion county. It is to be known as the Compagnie General de Phosphates de Floride. The company will have headquarters in Ocala, Fla., and Paris, France. The capitalization is to be \$1,200,000, divided into shares of \$20 each. The incorporators named are Augustus Alphonse Riche, Constant Channeaux, Gustave Tavevmier, Francisque Suver, Etienne Solomon, M. G. Riche and Ciel Riche. Mr. A. A. Riche is the prime mover, and will be the president of the new company, and Mr. F. Suver, the secretary and treasurer.

Among the charter privileges sought are powers to purchase and sell lands of all kind, phosphate, timber and agricultural, to mine and deal in phosphates and other substances, to manufacture and sell all products in which phosphate or phosphorus form a constituent part, and to manufacture and sell fertilizers. The powers sought to be granted are liberal.

Mr. Riche is well known in Florida, having been the founder of the Compagnie des Phosphates de France, commonly known as the French Company, whose shipments for the past two years have far exceeded those of any other company in the State. The capital for the new company will come principally from France, where Mr. Riche has wide connections. He is also interested in the new Ocala Bank, the Mutual Bank of Ocala, a charter for which is pending before the legislature now in session at Tallahassee. The friends of the contemplated rail connection between Plant City and Bartow seem confident now of the early commencement of the construction of the line, with a possible branch connection to Fort Meade, which will probably leave the main line at Phosphoria. This region is very rich in pebble phosphate, and the new line will undoubtedly bring into touch of transportation some fine properties whose exploitation has demonstrated their great value in phosphate deposits.

J. H. JONES.

A Big French Phosphate Company.

A new phosphate company has just been organized at Ocala, Fla. Application for a charter was made on the 17th inst., and the company is to be known as the "Compagnie Generale des Phosphates de la Florida," with principal places of business at Ocala, Fla., and Paris, France. The capital stock is placed at \$1,200,000, divided into shares of \$20 each, to be paid in cash under terms and conditions to be fixed by the board of directors. The incorporators are: Augustus Alphonse Riche,

Constant Channeaux, Gustave Tavevmier, Francisque Surer, Etienne Salomon, M. G. Riche and Celi Riche. Mr. A. A. Riche will be president of the new concern, and Francisque Surer, secretary and treasurer.

Phosphate Markets.

OFFICE MANUFACTURERS' RECORD, BALTIMORE, May 23.

Business during the past week has been quiet, with few transactions reported in the local market. There has been some inquiry from out-of-town buyers, but generally the demand has been of no moment. From points of production reports are unchanged, and the situation, both in South Carolina and Florida, may be written satisfactory. Prices continue very steady in South Carolina, and crude rock is quoted \$3 to \$3.25, \$3.50 for hot-air-dried and \$6.50 for ground rock, all f. o. b. Charleston. Florida rock is firm, with prices unchanged, at \$3.25 to \$3.50 for river pebble and \$4.50 to \$4.75 for land pebble, all f. o. b. Punta Gorda or Tampa. Tennessee rock is quoted at 9 cents per unit. The only local charter reported for the week was the schooner Annie C. Grace, Charleston to Baltimore with phosphate rock on private terms. In New York the charter market is unchanged, and berth freights to Europe are dull. The phosphate charters reported are as follows: A British steamer, 1352 tons, from Fernandina to Hamburg, 16/; July; two Spanish steamers, 1830 and 1355 tons, from Punta Gorda to United Kingdom, 15/6; a schooner, 1011 tons, from Port Tampa to Baltimore or Cartaret, \$2.35 and loaded; two British steamers, 1210 and 1082 tons, from a South Atlantic port to the United Kingdom or Continent on private terms; a schooner, 695 tons, Bull river, S. C., to Baltimore on private terms; a Spanish steamer, 2047 tons, from Punta Gorda to the United Kingdom at 15/6, and a schooner from Bull river, S. C., to Cartaret at \$2.

FERTILIZER INGREDIENTS.

There is no improvement in the market for ammoniates and business is reported generally quiet, with a moderate demand at the moment. Trade in the West is fairly active, with stocks generally light of both blood and tankage. Dried blood and sulphate of ammonia are slightly improved, with values firm. Southern buyers are not purchasing at present and there is very little demand from that quarter. The business in nitrate of soda is confined to small lots, with values generally steady.

The following table represents the prices current at this date:

Sulphate of ammonia, gas.....	\$3 00/00	\$—
Sulphate of ammonia, bone.....	2 75/00	—
Nitrate of soda.....	1 75/00	—
Hoof meal.....	1 80/00	—
Blood.....	1 90/00	1 95
Azotine (beef).....	1 80/00	—
Azotine (pork).....	1 80/00	—
Tankage (concentrated).....	1 70/00	—
Tankage (9 and 30).....	1 75 and 10	—
Tankage (7 and 30).....	17 00/00	17 50
Fish (dry).....	23 00/00	23 00
Fish (acid).....	15 00/00	15 50

CHARLESTON, S. C., May 21.

There is some improvement in the phosphate market, the movement of rock for local and coastwise shipment keeping some life in the trade. The miners generally feel more confident and look for a steady improvement in the market during the summer, and while prices are at the lowest point ever reached, they have reduced the cost of production greatly and are in pretty good condition. The river miners are working actively, and shipments to European points continue good. Prices are \$3 crude, \$3.50 hot-air-dried, \$6.50 ground, f. o. b. Charleston. The shipments by water for the week were the Czarina, 1500 tons for Richmond, Va. In port and loading are E. G. Hight, Fannie Brown, Blanche Hopkins, W. Lee Patten, N. W. Howlett and M. J. Lawrence. The steamships Maude, from Huelva, and Jessica, from Pomaron, are discharging pyrites. The shipments since September 1 were 66,467 tons crude, 1365 tons ground rock,

against 89,508 tons crude, 1841 tons ground rock for same date last year.

Phosphate and Fertilizer Notes.

THE bark Beatrice Havener arrived at Port Tampa, Fla., last week to load a cargo of phosphate rock for the Bone Valley Phosphate Co.

THE shipments of phosphate rock from Charleston, S. C., for the week ending May 17 were very light. The schooner Fannie Reiche cleared for Baltimore, Md., with 650 tons of crude rock, and the schooner Geo. L. Fessenden with 550 tons. The total shipments since September 1 to domestic ports amount to 66,467 tons of crude and 1365 tons of ground rock, against 89,508 tons of crude and 1841 tons of ground in 1893-94.

MESSRS. J. G. MCGIFFEN, & Co., agents for the French Phosphate Co. at Fernandina, Fla., cleared the British steamship Karom from that port on the 15th inst. for Venice, Italy, with 2750 tons phosphate, and on the 16th inst. the British steamship Inchulva for Hamburg, Germany, with a cargo of 1575 tons phosphate. The tonnage so far under charter for May aggregates 21,600 tons, against 29,400 tons for April. The prospects for June shipments from Fernandina are very encouraging.

ABOUT sixty representatives of different fertilizer firms throughout the South assembled in convention at Savannah on the 15th inst. The object of the meeting was the discussion of an agreement made last year by which the output was to be controlled, a scale of prices fixed and competition reduced to a minimum. Quite a number of representatives were in favor of the agreement and its continuance throughout the present year, while a large number were opposed to its terms and thought some changes should be made. The question was discussed until a late hour without any very definite understanding being reached. It was finally decided that last year's agreement should remain in force until August 1, 1895. The meeting was then adjourned subject to the call of the chair.

Iron Markets.

CINCINNATI, May 18.

The week closes with more activity in pig iron than has been experienced since the heavy sales of April. The advanced prices that were generally quoted after May 1 had the effect to check buying, and the first ten days of the month were rather light. But a good tonnage is again going, and all at regular prices. The "special concessions to induce trade" that were so familiar a feature of the declining market are seldom heard of now. Prices are still so low that most furnaces would rather see heavy orders go to competitors than to take them themselves. The little advance that has been made in prices is nearly absorbed by the increase of cost, which in one form or another is slowly asserting itself with makers in all districts.

For the benefit of those who think present advanced prices of pig are high, we have gone back over our order books for five years and give a comparison of figures, taking four representative kinds of iron that have been continuously on the market:

	1895.	1894.	1893.	1892.	1891.
Stand. Ala. No. 2 Fdy.	7.25	7.25	9.25	10.25	12.50
Niagara	10.50	10.50	13.50	13.75	15.25
Belfont	9.50	10.50	13.25	14.25	15.75
Hinkle	13.50	14.50	16.50	17.00	18.00

The Alabama prices are cash f. o. b. cars Birmingham; the Hinkle, cash at lake ports; the Niagara, at furnace near Buffalo; the Belfont, at the furnace on the Ohio river.

It will be noticed that prices, on the whole, are lower than they were a year ago, in the lowest depths of the depression following the panic. They are \$2 per ton lower than in the early stages of the panic, \$3 lower than in 1893 and \$5 lower than in 1891. All these figures are based on actual sales in May of the respective years. In

May, 1890, it may be added that prices were about \$2 per ton higher than in May, 1891, and for Southern irons about double the prices now ruling.

Since 1891 there have not been half a dozen new furnaces built, production has been considerably reduced, stocks in America have not increased and stocks in the world at large have been heavily reduced. It is not a severe strain upon the intellect to look upon today's prices of iron as abnormally cheap, even for panic times.

We quote for cash f. o. b. Cincinnati:

Southern coke No. 1 foundry	\$10.00	\$10.55
South. coke No. 2 fdy. and No. 1 soft	9.50	9.75
Hanging Rock coke No. 1	11.50	12.00
Hanging Rock charcoal No. 1	15.00	16.50
Tennessee charcoal No. 1	13.00	14.00
Jackson county stone coal No. 1	14.00	14.50
Southern coke, gray forge	8.75	9.05
Southern coke, mottled	8.50	8.70
Standard Alabama car-wheel	15.00	16.00
Tennessee car-wheel	14.50	15.00
Lake Superior car-wheel	13.50	14.00

NEW YORK, May 18.

Buyers here who have entered the market for three or four months' supply find that their favorite brands have advanced and that prices are firm at the advance. This has temporarily stopped sales of any sizeable lots. Buyers, however, will have to follow in the wake of the furnacemen and must ask more money for their finished product.

We quote for cash f. o. b. New York:

No. 1 standard Southern	\$11.75	\$12.00
No. 2 standard Southern	11.00	11.25
No. 1 standard soft	11.00	11.25
No. 1 foundry lake ore coke iron	13.00	13.25
No. 2 foundry lake ore coke iron	12.25	12.50
Lake Superior C. C.	15.50	15.75
Southern C. C. C. W.	17.50	18.00

We quote for cash delivered Boston:

Alabama No. 1 foundry	\$12.25	\$12.50
Alabama No. 2 fdy. and No. 1 soft	11.50	11.75
Alabama No. 3 fdy. and No. 2 soft	11.00	11.50
Alabama No. C. C. car-wheel	17.50	18.00
Strong L. S. coke iron No. 1 foundry	13.75	14.00
Lake Superior charcoal car-wheel	16.50	17.00
American-Scotch (Northern) No. 1	13.75	14.00
Jackson county silvery No. 1	17.00	17.50

We quote for cash f. o. b. St. Louis:

Southern coke No. 1	\$10.50	\$10.75
Southern coke No. 2	10.00	10.25
Southern coke No. 3	9.50	9.75
Southern gray forge	9.25	9.50
Southern charcoal No. 1	14.00	14.50
Missouri charcoal No. 1	12.50	13.00
Ohio softeners	14.00	14.50
Lake Superior car-wheel	14.50	15.00
Southern car-wheel	15.00	16.50
Genuine Connellsville coke	4.40	
West Virginia coke	4.40	

CHICAGO, May 18.

All branches of the iron trade are feeling the effects of improvement. The car works, jobbing foundries, agricultural works and rolling mills are more busy and buying more freely. Local irons have advanced to correspond with the advance in Southern irons, but still rule below Southern iron prices in Chicago and vicinity. The labor trouble at the Illinois Steel Co. furnaces at South Chicago has been arranged, and it is understood that the company has resold the 20,000 tons of Bessemer iron which they bought in the Mahoning valley about ten days ago.

Crop reports on the whole are favorable, in spite of recent frost and damage to wheat by insects. On the whole the outlook is encouraging, but there is nothing in sight to warrant the high hopes that are entered in some quarters.

We quote for cash f. o. b. Chicago:

Southern coke No. 1 soft & No. 2 fdy.	\$10.50	\$10.75
Southern coke No. 2 soft & No. 3 fdy.	10.00	10.25
Ohio Scotch softeners No. 1	12.00	12.50
Lake Superior charcoal Nos. 1 to 6	13.00	13.50

PHILADELPHIA, May 18.

For a while the leading iron makers in the South, notably, the Tennessee Coal, Iron & Railway Co. and Sloss Iron & Steel Co., found that the advanced figures which they placed on all grades were considerably above the prices asked by some of the furnaces in Shenandoah valley and Cripple Creek valleys, of Virginia, but now said Virginia furnaces have swung into line and prices on all classes of pig iron seem more uniform than they did a week ago.

We quote for cash f. o. b. Philadelphia:

Standard Alabama No. 1 X	\$11.25	\$11.50
Standard Alabama No. 2 X	10.50	10.75
Strong lake ore coke iron No. 1 X	12.25	12.75
Strong lake ore coke iron No. 2 X	11.75	12.25
Lake Superior charcoal	14.75	15.25
Standard Alabama C. C. C. W.	16.75	17.25

ROGERS, BROWN & CO.

FINANCIAL NEWS.

And Yet They Are Prospering.

The New York correspondent of the Atlanta Constitution writes: "There have been a very large number of bankers visiting New York from the States of South Carolina, Georgia and Alabama since May 1 at different times. Probably other Southern States have had as many, but most of the men I am acquainted with are from the States named, and they are here for the purpose of arranging, whether preconcerted or not, to get currency to carry to their respective States. I am informed by one of the intelligent men above named that they have secured loans from bankers in this city since the 1st of May amounting to \$7,000,000 or \$8,000,000. They get it for 4 per cent. until the 1st of October, with the privilege of renewing at that time on thirty, sixty or ninety days at the same rate of interest. In conversation with one of these bankers today, he informed me that it would make times better in the South when this money was turned loose. "How do you propose to turn it loose?"

I inquired.

"Oh," he said, "we can turn four times that amount loose in our States at a good rate of interest. We will lend this money, due say October 1, at 8 to 12½ per cent. per annum, which you see will be quite a nice profit for us on the amount loaned."

"But can you," I asked, "make these loans on good security?"

"Just as good as anybody would wish. In the first place a great deal of this money will be loaned to merchants who sell what is known in our section of the country as "time" goods to farmers. These merchants will pay us, say 8 per cent. Then they will sell goods due in October to planters and farmers and get 15 or 20 per cent. for the supplies."

"Then you think this process will make good times?"

"Well," he said, "it will give the people what they want—that is money."

"But can they make any money by paying this high rate of interest?"

"Of course, the merchants will. They pay 8 per cent. for it, and if they sell to the farmers goods on time, the farmers will have to pay a very high rate of interest, it is true, but they cannot make a crop without something to make it with, and while the interest these farmers have to pay is pretty high, it is not as much as they have paid in the past, and we will have no trouble in disposing of this money, as I tell you."

In other words, money coming from Northern bankers at 4 per cent. interest is finally turned into Southern farmers' supplies in the rate of 15 to 20 per cent., which the latter have to pay. And yet, such are the resources of the South and the fertility of its soil that the farmers are becoming each year more prosperous, even though they pay such a rate of interest.

What opportunities there are for farmers who do not need to buy on credit is shown by the advancement of Southern agriculture, notwithstanding such rates of interest.

New Corporations.

Stock is being taken in a proposed national bank at Laredo, Texas.

The Mohr-Weil Lumber Co., of Montgomery, Ala., is considering the idea of opening a bank at Abbeville, Ga.

The Hamilton Building & Investment Co. of St. Louis, with capital stock of \$15,000, has been formed; incorporators, J. J., H. L. and L. E. Hedrick.

The Citizens' Bank & Trust Co. has been organized at Tampa, Fla., with \$100,000 capital. John Trice, of Tampa, is president, and W. J. Davis, of Charlotte, N. C., vice-president.

The Temple (Texas) Building & Loan Association has been chartered with a cap-

ital stock of \$25,000. The incorporators are George E. Wilcox, A. F. Bently, William D. Cox, W. E. Hall and John A. Cole.

Articles of incorporation have been filed by the West Baltimore Street Building Association, of Baltimore, with a capital stock of \$1,300,000. The incorporators are William M. Warfield, George E. Warfield, Charles M. Wartman, J. W. Brooks and Leopold Springer.

A charter has been issued to the Protective Fire Insurance Co., of Charleston, S. C. The officers and directors of the company are: Joseph Marks, president; W. L. Copleston, secretary and treasurer; Wilson G. Harvey, J. Wolfe Banov, A. T. Thomas, James Ackerman and A. L. Druelle. The company will start out with a capital stock of \$10,000, and proposes to do a general fire and tornado insurance.

New Securities.

The Mercantile Trust Co., of Baltimore, has just concluded negotiations for the purchase of \$194,500 of 5 per cent. coupon bonds of the city of Petersburg, Va., at a price between 103½ and 105.

Interest and Dividends.

The City Savings Bank of Baltimore has declared an annual dividend of 4 per cent.

The Kentucky Wagon Co. of Louisville has declared a quarterly dividend of 1½ per cent.

The Bonsack Machine Co., of Lynchburg, Va., has declared a dividend of \$3 per share.

The Tidewater Building Association of Norfolk, Va., has declared an annual dividend of 6 per cent.

Financial Notes.

THE Fidelity Trust Co., of Louisville, Ky., has re-elected John D. Taggart as president.

OTHO S. HOUSTON, cashier of the First National Bank of Granbury, Texas, has taken the presidency of the First National Bank of Stephenville, Texas.

THE Franklin Insurance Co., of Louisville, Ky., has decided by a vote of its board of directors to retire from the business of fire insurance, and has arranged with the National Fire Insurance Co., of Hartford, to assume all liability under its outstanding fire policies.

A Rare Opportunity.

The attention of machinery users, also real estate operators, is called to the advertisement of Mr. Henry L. Smith in another column, relative to the sale of a valuable manufacturing plant at Albany, N. Y. This property must be sold in the near future. It is situated in one of the most enterprising and prosperous cities in the North, and is an excellent location for business purposes and is also desirable as an investment. It has a large frontage on the Hudson river, commodious buildings for industrial purposes, and contains some especially valuable machinery for the development of 200 horse-power. The transportation facilities are unusually good, a railroad line running within sixty feet of the property. Mr. Smith, at Albany, would be pleased to correspond with anyone who may be interested.

An Iron Furnace for Sale.

An investment of more than ordinary interest is presented in the proposed sale of the Star and Crescent furnace, which is offered for sale in another column. This furnace is located between Rusk and New Birmingham, Texas, and is surrounded with all those facilities which contribute to profitable iron-making. The furnace is new and in first-class order. A large amount of rich iron-ore land is part of the property. The ore is mostly on the surface, and is easily mined. Cheap charcoal, an abundance of cheap labor, ample supply of water and two railroads are among the advantages of the location. The rapid development of this section of Texas gives a constantly-widening market for pig iron, and the good railroad facilities place the product within easy reach of the larger markets. Leon F. Hauptman, Godchaux Building, New Orleans, La., can be addressed for details regarding the property.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under the head of "Machinery Wanted."

✚ In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Birmingham—Machine Works.—The Warrior Machine Works will put in new machinery.*

Clay County—Mica Mines.—A dispatch states that Chattanooga parties will develop mica mines in Clay county. A Dr. Robinson is said to be interested.

Cullman—Water Works.—The city council has passed a resolution to the effect that as soon as the water-works board shall decide upon the question of city water works, the council will hold itself in readiness to issue bonds to the amount of \$15,000 for the purpose of constructing an adequate system. Address the mayor.

Dadeville—Cotton Mill.—Concerning the proposed cotton mill F. A. Vaughn can be addressed.

Demopolis—Water Works.—The city council has appointed a committee of three, to be known as the water works committee, consisting of Messrs. Williams, Marx and Webb, to investigate the question and to proceed as they shall deem fit toward the furtherance of the work. Address the mayor.

Guntersville—Gold Mines.—A dispatch states that a syndicate has bought mineral rights on the property of John Doss and D. H. Evans and will open gold mines. G. B. May can probably give information.

Jasper—Grist and Saw Mill.—Joel Miller and R. B. Spear will erect a grist and saw mill.

La Fayette—Electric-light Plant.—R. J. Moore will put in a \$3000 electric-light plant.

Montevallo—Cotton Mill.—T. J. Kroell & Son will equip a cotton mill.

Selma—Oil Mill.—The International Cottonseed Oil Co., last noted as chartered, has organized with Ernest Lamar as president; C. W. Hooper, vice-president; Law Lamar, treasurer, and bought land and will erect plant at the corner of Selma street and Range avenue. Mr. Lamar will go East to purchase machinery for the plant. It will be ready for business by the middle of September; capacity eighty tons per day.

Tuscaloosa—Cotton Mill.—The J. Snow Hardware Co. will equip a 2100-spindle mill.

ARKANSAS.

Arkadelphia—Machine Shop.—J. M. Greene is equipping a machine shop; machinery all purchased.

Black Rock—Lumber Company.—The Black Rock Lumber & Co. has increased its capital stock from \$12,000 to \$15,000.

Little Rock—Telephone Company.—W. J. Wilson, J. W. Shellhorn and M. H. Johnson are organizing a co-operative telephone company to be known as the Home Mutual Telephone Co.

Pine Bluff—Match Factory.—A dispatch states that at a meeting of the executive committee of the Manufacturers' League, with Wallace A. Downs, of New York, who represents the Continental Match Co., of 26 Cortlandt street, New York, an agreement was made by which the company promises to erect and operate in Pine Bluff a large factory to cost in the neighborhood of

\$50,000; it will employ 100 hands. A bonus of several thousand dollars, with a suitable site, was accepted.

Washington—Broom Factory.—Childress & Waugh will start a broom factory; machinery now being put in.

FLORIDA.

Ocala—Cannery.—W. F. Hamilton will equip a canning factory.*

Ocala—Phosphate Mine.—The Compagnie Generale des Phosphates de la Floride has been incorporated with a capital stock of \$1,200,000 to develop phosphate and manufacture same. A. A. Riche, of Paris, France is president, and Francisque Suver, secretary treasurer. Constant Chauneux, Gustave Tavevinier, Etienne Salomon and others are also interested. Offices of the company are at Ocala, Fla., and Paris, France.

Orlando—Horse-shoe Company.—The Shepherd Horse Shoe Co. has been organized with a capital stock of \$24,000.

Pensacola—Furniture Factory.—A Grand Rapids (Mich.) party has made the Chamber of Commerce a proposition for the erection of a \$25,000 furniture factory.

Tallahassee—Telephone Company.—George W. Saxon, W. A. Rawls, James D. Randall and M. B. Rice have applied for a charter as the Florida Telephone & Construction Co. with a capital of \$10,000.

Tampa—Dry docks.—The Plant Investment Co. contemplates building dry-docks for repairing vessels.

GEORGIA.

Abbeville—Box Factory.—The Mohr-Weil Lumber Co., of Montgomery, Ala., will add machinery for box manufacturing to its Abbeville plant.

Adairsville—Creamery.—A creamery is to be built.

Adairsville—Publishing.—The Adairsville Banner Co. has been organized for publishing purposes; J. E. Scott, secretary.

Adairsville—Bauxite Mines.—The Georgia Mining & Bauxite Co. is increasing its mining operations and adding new machinery, including engines, washer, drier, etc.

Adairsville—Saddlery.—Manning & Estes have started a harness factory.

Atlanta—Water Mains, Crematories, etc.—The city's proposed improvements, already noted, will be voted upon on May 30. For laying additional water mains \$60,000 is to be expended; for erecting additional crematories \$25,000, and for constructing sewers \$25,000. Address the mayor.

Atlanta—Terra-cotta Works.—P. Pellegrini, Saml. Young, J. R. Collins and others have formed the Southern Terra-Cotta Works and purchased the terra-cotta works for \$50,000; operations will be continued.

Atlanta—Machine Works.—It is reported that E. Van Winkle will erect machine works.

Atlanta—Machine Works.—W. W. Boyd has purchased the E. Van Winkle Gin & Machinery Co.'s plant for \$58,600; operations will be resumed.

Atlanta—Railway Novelty.—A \$15,000 stock company is being organized to construct a cycloidal railway for the coming exposition after plans by Wm. D. Cronin, the inventor. Address care of M. Rich & Bros.

Augusta—Cotton-mill Enlargement.—The Enterprise Manufacturing Co. will hold a stockholders' meeting on June 15 to consider increasing its capital stock about \$500,000 and adding 40,000 spindles and 1000 looms to its plant.

Bartow County—Bauxite Mines.—A. E. Hunt, of Pittsburg, Pa., is organizing a company to develop bauxite mines in Bartow county.

Brunswick—Ice Plant.—The Artesian Ice Manufacturing Co., lately noted, will expend \$5000 in improvements to its brewing plant, adding new ice machine, etc.

Cedartown—Cotton Mill.—Chas. Roberts, Thomas Adamson and Chas. Adamson have incorporated the Cedartown Cotton Manufacturing Co., and will operate the old Cedartown mill; capital stock \$18,000.

Cedartown—Iron Mines.—The Wray Mining Co. will develop iron-ore mines, and to that end will put in a complete plant, including washers, etc. Fifty to sixty hands will be employed.*

Cordele—Telephone System.—L. S. Ledbetter, D. H. Ledbetter and J. W. Dodds have incorporated the Cordele Telephone Co., lately noted, and will construct system; capital stock \$10,000.

Crawford—Gin Mill.—A. S. Rhoads may enlarge his gin and mill.

Dahlgene—Gold Mine.—A company with a capital stock of \$100,000 has been organized to work the Potosi gold mine and active operations are now in progress. Captain Fisher can be addressed.

Darien—Electric-light and Water Works.—The city will at once arrange for the erection of the electric-light and water-works plant recently decided

upon by election. Liberal franchise will be granted to private company. Address the mayor.

Lamkin—Cannery.—Julian B. Lamkin will establish a cannery.*

Macon—Electric Plant.—The Consolidated Street Railroad Co. will extend and enlarge its electric-light and power system.

McRae—Cannery.—Thos. Eason, C. B. Parker, W. B. Folsom, Thos. Boothe and others have organized a company to start canning factory.

Rome—Cotton Factors.—R. G. Clark, J. N. King, W. C. King and J. P. Cooper have incorporated the Howel Cotton Co. with a capital stock of \$50,000.

Rossville—Woolen Mill.—The East Lake Woolen Mill Co., recently noted as chartered at Chattanooga, Tenn., has determined to build its proposed \$75,000 plant at Rossville; work on it will soon be commenced. Messrs. Campbell & Hutchison compose the company.

Swainsboro—Manufacturing.—Jesse Thompson, G. S. Rountree, R. J. Williamson and others have incorporated the Swainsboro Manufacturing Co. with a capital of \$25,000.

KENTUCKY.

Ashland—Brick Works.—The Kentucky Fire-Brick & Building Co. will erect a plant.

Bardwell.—The Morrill Refrigerator Car Co. has been incorporated; capital stock \$10,000.

Louisville.—The Geo. C. Buchanan Co., capital stock \$10,000, has been incorporated.

Louisville.—The Tennessee Farm Co., capital stock \$60,000, has been incorporated.

Louisville—Machine Shop.—Chess, Wymond & Co., manufacturers of cooperage, are erecting a machine shop to do their own repairing; machinery all purchased.

Owensboro—Electric-light Plant.—The city will build an electric-light plant. The mayor can be addressed.*

Owensboro—Printing Works.—The Owensboro Printing Co. has been incorporated; capital stock \$20,000.

LOUISIANA.

Crowley—Rice Mill.—The Picket Rice Milling Co will enlarge its plant.

Louisiana—Saw Mill.—The Boston Lumber Co. will erect a large saw mill on the Houston Central, Arkansas & Northern Railroad, forty miles north of Alexandria, La. J. W. Behan, late of Texas, is interested.

Natalbany—Lumber Mills.—The Natalbany Lumber Co. intends putting additional machinery in its planing mill. The outfit will be enlarged to embrace flooring machines, molding machines, rip saws, etc.

New Orleans—Elevators.—P. J. O'Reilly has petitioned for authority to erect two steam elevators.

New Orleans—Steamship Company.—James B. Woods, John G. Woods, Wm. H. Dwyer and others have incorporated the Columbia Fruit & Steamship Co., Limited, with a capital stock of \$100,000.

New Orleans—Telephone Plant.—The city will shortly award franchise for telephone system; open to all bidders. Address the mayor.

Plaquemine—Ice Factory.—The Louisiana Ice & Cold Storage Co., of Baton Rouge, will build a 15-ton ice factory at Plaquemine.

St. Martinsville—Furniture Factory.—Charles d'Aquin is equipping a furniture and sash factory.

Victoria—Shingle Mill.—The Victoria Lumber Co. is negotiating to erect a shingle mill in Avoyelles of 200,000 daily capacity.

MARYLAND.

Baltimore—Electric Plant.—The Baltimore, Middle River & Sparrow's Point Railway Co. will erect an electric-power plant.

Baltimore—Packing-house.—Improvements to cost \$7000 are being made to the C. H. Pearson Packing Co.'s house at Clement and Lawrence streets. An artesian well is being drilled 100 feet deep, and new piles for an 11,000-gallon tank are being driven along the edge of the plant. New machinery is also being put in all through the place, which will increase the capacity.

Baltimore—Yeast Factory.—The Maryland Yeast Co. has been incorporated, with a capital stock of \$100,000, by John W. Cruett, Henry Wiethegar, Peter Schmidt and Lewis E. Rice, of Baltimore, and Charles Schneider, of Washington. Yeast, vinegar and other products will be made by the company.

Baltimore—Power Plant.—Plans have been prepared for a brick and masonry building 67x85 feet, and to contain six boilers aggregating 3000 horse power set on masonry and brick work, while a traveling conveyor will be put in for handling fuel, etc.; also one brick and stone building for machine shop, one and one-half stories high, with iron truss roof and cement

basement, to be fitted with one or a set of slow-speed engines coupled direct or belted to a series of dynamos of the largest size. Proposals for erecting buildings only, or for buildings and electric plant complete, will be received. The above is for the Maryland Electric Co.'s new plant noted last week.

Ivy City, D. C.—Brick Works.—The Ivy City Brick Co. will probably rebuild its burned works.

Laurel—Electric Plant.—The Laurel Electric Light, Power & Heat Co., which was sold at a public sale a few months ago to a Baltimore firm, has been bought by a Laurel company, of which the president is Dr. D. W. Snowden; vice-president, C. F. Shaffer; secretary, G. W. Waters, and treasurer, F. W. Awalt.

Laurel—Street Improvements.—The city will improve streets and sidewalks; Jno. W. Gray, clerk.*

Laurel—Water Works.—The city will shortly open bids on the water works noted last week; John W. Gray, clerk.*

Leitersburg—Bridge.—Samuel Martin, Oliver Knodel, of Leitersburg, and others have petitioned the county commissioners to build a bridge across the Antietam at Fox's Ford; Geo. C. Snyder, president board commissioners.

Ocean City.—The Atlantic Casino Co. has been incorporated with a capital stock of \$12,000 to develop and maintain resorts along the seashore. The company is composed of James Bates, George R. Gaither, Ralph Robinson, William J. Warrington and Albert P. Warrington, all of Baltimore.

Westminster—Flour Mill.—A company has purchased the W. S. Myer & Bro. mill, and will put it in operation after overhauling; capacity 200 barrels.

MISSISSIPPI.

Greenville—Water Works.—The city will construct water works or grant franchise; John M. Lee, clerk.*

Natchez—Drug Company.—J. B. Guthrie, Theodore Crothers, John H. Chamblis and others have incorporated the Natchez Drug Co. with a capital stock of \$100,000.

Tupelo—Compress.—The Tupelo Cotton Compress Co. has closed a contract for one of the largest compresses east of the Mississippi river, which is to be completed in time to compress the new crop.

Tupelo—Scale Company.—The Smith Scale Co., formerly of Memphis, Tenn., has removed to Tupelo and organized the Smith Scale & Foundry Co. with a capital of \$10,000.

MISSOURI.

Jefferson City—Steel Bridge.—The completion of subscriptions has been announced sufficient to construct a steel bridge across the Missouri river between Jefferson City and Cedar City, Callaway county. The structure will cost \$200,000, and actual work will be commenced on the bridge next week, and it will be completed with as much speed as possible. A. J. L. Waddell has been selected as engineer, and A. J. Tullock will perform the contract work. The bridge will be owned by the Jefferson City Bridge & Transit Co.

Joplin—Street Improvement.—The city will issue \$3000 in bonds for street improvements. Address the mayor.

Kansas City—Machine Company.—The Kansas City Die & Machine Co., capital stock \$3000, has been incorporated by Fred W. Durner, W. W. Bradley and John H. Hoffman.

St. Louis—Manufacturing.—The Heet Manufacturing Co., capital stock \$5000, has been incorporated by A. G. Williams, Wm. H. and Anna M. Heet and Henry E. Seymour.

St. Louis—Brick Works.—Akron Hydraulic Press Brick Co., capital stock \$300,000, has been incorporated by O. C. Barber, Geo. W. Crouse, J. C. Ewart, E. C. Sterling, W. H. Eliot, Wm. B. Dean and S. S. Kimbell.

St. Louis—Construction.—The Howard Construction Co., capital stock \$10,000, has been incorporated by Thomas Howard, John A. Holmes, Thomas M. Gallagher and others.

NORTH CAROLINA.

Charlotte—Pump and Heater Works.—The Park Manufacturing Co. will erect the pump and heater works lately noted. J. R. Pharr and associates now have the plant at Gastonia, but will remove it to Charlotte.

Charlotte—Cotton Mill.—A. M. Price is making arrangements for the erection of a cotton mill to be the largest in Charlotte. The largest plant at present contains over 18,000 spindles.

Chatham—Coal Mine.—A company with Geo. F. Edmiston, president, has bought the Evans coal-mining property in Chatham county for \$30,000, and will develop same.

Durham—Cotton Mill.—The Erwin Cotton Mills will erect an addition and put in 625 looms.

Greensboro—Furniture Factory.—Mr. Millis and

Mr. Finch, of High Point, have recently bought an interest in the Greensboro Furniture Factory, and will largely increase the plant at an early date. Mr. Walker will become the manager.

Jamestown—Power Plant.—The Oakdale Manufacturing Co. will put in a new power plant; contracts let.

King's Mountain—Cotton Mill.—The Enterprise Mill, noted last week, will also put in 1500 twister spindles.*

New Berne—Artesian Wells.—Synor & Shepard, of Richmond, Va., have been awarded contract to sink four artesian wells for the city.

Ramsey—Cotton Mill.—The Columbia Manufacturing Co. is putting in new looms, spinning frames, steam-power machinery, etc.

Reidsville—Cotton Mill.—The recent purchasers of the Hermitage Cotton Mill have incorporated as the Edna Cotton Mills Co. and put 2800 spindles in operation. The plant will be enlarged into a 15,000-spindle one, which makes 12,000 spindles, 400 looms and other machinery to be added.

Rutherfordton—Flour Mill.—J. S. Roland will build a 25 barrel roller flour mill; machinery all purchased.

Scotland Neck—Electric-light Plant.—The erection of an electric-light plant is contemplated. Address for particulars W. H. White & Co.

SOUTH CAROLINA.

Bamberg—Spoke Factory.—A charter has been issued to the Bamberg Spoke & Handle Co., with president, John May; manager and treasurer, W. O. Tatam; secretary, L. T. Levin.

Charleston—Mercantile.—A charter has been issued to the Marshall-Wescoat Co. for doing a general hardware business. The incorporators are S. R. Marshall, Benj. Greig, Julius W. Sanders and John V. McNamee.

Clemson College—Cotton Mill.—The Calhoun Cotton Mills, noted last week as incorporated, will soon organize and commence to build. Address R. W. Welch.

Fort Mill—Cotton Mill.—The Millfort Manufacturing Co. will put in sixty more looms.

Hampton—Cotton Mill.—Endeavors are being made to organize a cotton-mill company, and over \$23,000 has been subscribed. J. A. Lightsey can be addressed. Charter has been granted under the name of the Hampton Cotton Mills; capital stock placed at \$50,000.

Marion—Telephone Lines.—The Pee-Dee Telephone Co. has been organized to construct and operate a telephone line from Marion to Sellers, Latta and Dillon. The directors are Dr. J. H. David, D. M. Dew, John C. Sellers, E. H. Gasque and Henry Mullins.

Parksville—Cotton Mill.—Endeavors are being made to organize a \$1,000,000 cotton-mill company. D. A. J. Bell, W. J. Tolbert, W. B. Parks, G. W. Bussey, Jesse Stone and others are interested.

Piedmont—Cotton Mill.—The Piedmont Manufacturing Co. will erect an addition and put in 5000 more spindles together with necessary machinery.

Prosperity—Woodworking Plant.—W. W. Bruce is adding a bobbin outfit.

Spartanburg—Cotton Mill.—Mr. Jno. H. Montgomery, president of the Spartan Mill, referring to the new plant lately noted, states that it is expected to be a 30,000 spindle one.

Spartanburg—Cotton Mill.—The Spartan Mill's new plant to be built next year will have 30,000 spindles.

Walhalla—Cotton Mill.—The Walhalla Cotton Mills, recently noted, contemplates a 10,000-spindle plant.

TENNESSEE.

Chattanooga—Tannery.—The United States Leather Co.'s extensive improvements, lately noted, will cost in the neighborhood of \$40,000. A new dryhouse is to be erected 30x34 feet and will, when completed, cost \$10,000. In connection with the drying room a new building is also to be erected 100x28 feet, arranged as the rolling-room. The machinery of this department will amount to several thousand dollars. The plant is now equipped with the old fashioned boilers known as the "cylinder pattern" boiler. These are to be taken out and replaced with the latest flue boilers, and which are now under construction. In all four new boilers are to be put in with a power of 150-horse each. In connection with the new boilers, new stacks are to be erected and a new boiler-house.

Embsville—Furnace.—It is stated that the Embsville Iron Co. will put its furnace in blast.

Greenville—Water Works.—A system of water works will be constructed. H. Reaves can be addressed.

Harriman—Cannery.—W. V. Hawkes is in correspondence with a Maine party who contemplates building a cannery in Harriman.

Harriman—Flour Mill.—W. T. Smith is in correspondence with an Illinois party who contemplates erecting a flour mill in Harriman.

Harriman—Saw Mill.—R. F. Wells has made a proposition to the Chamber of Commerce for the erection of a saw mill of 50,000 feet capacity daily.

Jackson—Electric-light Plant.—The city will hold an election about August 22 to vote on an issuance of \$10,000 of bonds for an electric-light plant. Address the mayor.

Johnson City—Tannery, etc.—There is talk of Pennsylvania parties establishing a tannery, also that a veneer mill will be built.

Kingsport—Flour Mill.—The Riverside Planing Mill will put in a roller flour mill.*

Memphis—Oil Wells.—John H. Compton has organized a company to bore oil wells.

Riceville—Lumber Mill.—W. T. Orton is to erect a planing machine in connection with his saw mill.

Riceville—Harness Manufacturing.—C. W. Oliphant is erecting a new tanyard, and will manufacture harness.

Sevierville—Bridge and Roads.—The county will build a steel bridge across Pigeon river at Pigeon Forge, and the county is authorized to issue \$50,000 in bonds of road improvements; John Chandler, county clerk.

TEXAS.

Austin—Electric Company.—The Texas Electric Co. has been incorporated by C. W. Hobson and others with a capital stock of \$5000.

Austin—Paint Mill.—Reynolds Bros. have started the manufacture of paint.

Beaumont—Glass Works.—Parties from Montreal, Canada, now investigating, speak favorably of locating glass works at Beaumont.

Belton—Cannery.—The Belton Canning Co., lately noted as equipping plant, capital stock \$10,000, has been incorporated by A. J. Embree, H. B. Hillyer and Thomas A. Cook.

Blooming Grove—Water Works.—The Blooming Grove Water Co., lately noted, has permanently organized with H. M. Allen, president; Joseph H. Jones, vice-president; M. G. Young, secretary; S. W. Grimes, treasurer. The company has placed about \$10,000 in stock, and will let a contract for the sinking of an artesian well in the near future.

Dallas—Boiler Compounds.—The Encl Boiler Compound Co., capital stock \$30,000, has been incorporated by C. W. Guild, M. L. Hill, John Bookhout and Charles A. Hill.

Dublin—Flour Mill.—The negotiations have been closed and a flouring mill with 100 barrels capacity daily will be built.

El Paso—Irrigation Canal.—It is stated that the El Paso International Dam & Irrigation Co. has placed \$2,500,000 worth of bonds in England and will soon commence the construction of its proposed irrigation canal at Rincon, near El Paso. Hon. W. B. Brack is interested in the company.

Fort Worth—Land Company.—The Marine Land Co., for the purchase, sale and subdivision of real property, capital stock \$30,000, has been incorporated by W. R. Booth, A. A. Green, Jr., G. B. Johnson, W. R. Savage and John White.

Fort Worth—Land Company.—The Panther City Real Estate Co. has been chartered for the purchase, sale, subdivision and improvement of real property; capital stock \$30,000. The directors are M. G. Ellis, O. Talbott, S. A. Goode, H. J. Goldberg and R. N. Hatcher.

Goldthwaite—Bridge.—The commissioners' court of Mills county has agreed to join San Saba county in erecting a much needed bridge across the Colorado river between Goldthwaite and San Saba.

Gonzales—Oil Mill.—It is proposed to organize a \$50,000 stock company to erect a cottonseed-oil mill; Peck & Fry can be addressed.

Hico—Flour Mill.—The Hico Roller Mills has put in new machinery, increasing its capacity 50 per cent.

Houston—Flushing System.—Mr. W. H. Neal, late of Greenville, Miss., has made a proposition to the city council whereby the bayou front may be improved by a flushing system. He states that the cost of building the necessary locks and dams will not exceed \$5000.

Jacksonville—Water Works.—There is a movement on foot looking to the establishment of water works. An abundant supply of water can be had from springs about one mile from the city, having a flow of about thirteen gallons per minute, with a fall of about seventy feet, and the estimated cost of piping it is about \$5000. Address the town clerk.

Jefferson—Lumber Mills.—The Torrains Manufacturing Co. has been incorporated for the manufacture of lumber, doors, sash, etc.; capital stock \$30,000. The directors are R. T. Torrains, W. T. Atkins, A. H. Schluter, all of Jefferson.

Lampasas—Bridge.—The county commissioners' court, now in session, has voted to build a bridge across the Colorado river at Red Bluff, near Lometa.

Lancaster—Electric light, Ice and Water Works.—The Lancaster Water, Light & Ice Co., lately organized, to supply water and electric lights and manufacture ice, capital stock \$15,000, has been incorporated by R. P. Henry, S. L. Randlett, W. A. Strain, F. M. Hammond, W. L. White, W. T. Lavender, N. B. Johnson, T. B. McCurdy and B. W. McCurdy.

Lexington—Water Works.—It is reported that a

stock company for putting in a system of water works is being organized.

Marlin—Water Works.—The city will probably arrange for water supply in the near future. Address the town clerk.

Marlin—Telephone System.—Contracts have been signed with the Southwestern Telephone & Telegraph Co. to connect Marlin by telephone with all the important points in the State, also to put in a telephone system in the city. The company will construct a four-wire line from Bremond to Waco, thus connecting Marlin with the line in course of construction from Houston to Corsicana.

Nacogdoches—Lumber Company.—The Bermea Land & Lumber Co., capital stock \$30,000, has been incorporated by B. S. Wettermark, William A. Patton and Gail B. Crain.

Port Lavaca—Water Works.—There is a movement afoot for the construction of water works, supply to be obtained from an artesian well. Address the mayor.

San Antonio.—The Alamo Heights Suburban Co., for erection and repair of buildings, etc., capital stock \$6200, has been incorporated by Charles W. Ogden, C. L. Harwood, Sydney K. Buchanan, of San Antonio, and Edwin Packard and Spencer A. Jennings, of Brooklyn, N. Y.

Victoria—Telephone System.—L. P. David and A. J. Moore, representing the American Bell Telephone Co., are in Victoria in connection with the proposed long-distance telephone connecting Cuero, Goliad, Port Lavaca and other towns.

Victoria—Telephone System.—About one-half of the required \$1000 to secure the long-distance telephone line has been raised by Captain Whips, who has the matter in charge.

Victoria—Bridges.—The commissioners' court has decided to build three iron bridges as follows: One over the Coletto creek on the Refugio road, at what is known as Warden's crossing; one over the Garcitas creek on the Edna road, and one over the Guadalupe river near Nursery. Address the county clerk.

Waco—Water-power.—It is probable that the Brazos Dam Co. will soon commence the construction of its proposed dam to develop water-power. Site has been chosen near the mouth of the Bosque river, and the engineers who made the original report showed that the dam at the site selected would be about 100 feet long and twenty feet high, and would give a lake eighteen miles long, with an average width of 200 yards and a mean depth of twelve feet. The company proposes to furnish power for manufacturing plants, contract for irrigation, etc.

VIRGINIA.

Danville—Electric-power Plant.—The Electric Street Railway Co. will build a power plant and car sheds.

Louisa—Pyrites Mine.—G. N. Shuman, of the Virginia Pyrites Mining Co. has paid \$10,097.35 in cash to William T., James H. and John E. Ellis and received a deed to the Forked Run pyrites mine.

Martinsville—Flour Mills.—H. C. Lester has contracted for a 30 and a 40-barrel flour mill.

Norfolk—Bridge.—The construction of a free bridge from Main street, Norfolk, to Main street, Berkley, is being considered. Address the mayor.

Norfolk—Wells.—The city will let contract for wells.*

Norfolk—Lumber Company.—The Constantine Company has been chartered to deal in and export woods with a capital stock of \$500,000. A. J. Constantine, Sr., of Brooklyn, N. Y., is president; B. Constantine, of Orange, N. J., secretary-treasurer.

Norfolk—Liquor Company.—The Norfolk Liquor Co. has been chartered to conduct the wholesale liquor business, construct and operate distilleries, etc. The capital stock is to be not more than \$100,000. President, Edward Mahoney; secretary and treasurer, James E. Allen; directors, the above and Thomas Kevill, J. G. Dunbar and E. L. Mahoney.

WEST VIRGINIA.

Berkeley County—Coal Mine.—Horace Resley, of Cumberland, Md., will open coal mines in West Virginia.

Berkeley County—Coal Mines.—John Stouffer, of Hagerstown, Md., has opened a coal mine in Berkeley county.

Cairo—Oil Wells.—The South Penn Oil Co. has purchased for \$650,000 the oil right of the Harkness tract of 4760 acres, which extends from near Cairo to Glendale.

Charleston—Gas Wells.—J. W. Penhale, H. A. Forman and H. F. O'Neil will expend \$10,000 in drilling for gas.

Crow—Lumber Mill.—J. R. Beatty & Co. are now rebuilding their burned lumber mill.

Parkersburg—Chair Factory.—The Parkersburg Chair Co., lately noted as incorporated with an authorized capital of \$200,000, has bought the plant of the old Parkersburg Chair & Furniture Co., which is a complete plant for the manufacture of all kinds of chairs. The plant is thoroughly equipped and has been started with about fifty

men. The price paid for the plant including ample working capital was \$77,500.

Salem—Electric-light Plant.—For information regarding the proposed electric-light plant, address D. F. F. Randolph mayor.

Terra Alta—Improvement Company.—The Lake Terra Alta Improvement Co. has been organized with John P. Jones, president; Wm. G. Brown, vice-president; R. L. Fleming, secretary, and L. P. White, treasurer. The company will improve lands, etc.

Washington—Oil Well.—The Penn Oil Co. will drill a well on J. T. McMechen's farm.

Weston—Lumber.—The Dimension Stock Co., to buy, sell, manufacture and deal in lumber of all kinds, has been incorporated by J. H. Bare, M. H. Bare, R. H. Enoch, E. E. Gribble, J. B. Finster, N. J. Finster; maximum capital stock \$50,000.

Wheeling—Tinplate Mill.—The La Belle Iron Works has completed its new tinplate mill and will put it in operation to employ 300 men.

BURNED.

Charlotte, N. C.—The Southern Railway Co.'s passenger depot; loss \$32,000.

Ivy City, D. C.—The Ivy City Brick Co.'s plant.

Lynchburg, Va.—The Strange Mill, owned by Mrs. L. E. Litchford; loss \$10,000.

Rico, Ga.—Jno. C. Smith's cotton gin.

Savannah, Ga.—The Flor de Metre tobacco factory; loss \$150,000.

St. Mary's, W. Va.—J. W. Barkwill's saw mill.

Stony Creek, Va.—E. O. Poarch & Son's saw mill in Sussex county; loss \$2500.

Wildwood, Fla.—Scott & Haney's planing and saw mill.

BUILDING NOTES.

Atlanta, Ga.—Temple.—The Masonic Temple Co.'s proposed building is to be located on a lot 85x120 feet, be eight stories high and cost about \$125,000.

Atlanta, Ga.—The manufacturers of Georgia will erect a large building at the coming exposition to contain 20,000 square feet of space. Address Thos. H. Martin, 819 Equitable Building.

Baltimore, Md.—Car Sheds.—The Baltimore, Middle River & Sparrow's Point Railway Co. will erect car sheds; James Youn, president.

Baltimore, Md.—Power Building.—See Construction Department.

Barium Springs, N. C.—Orphanage.—C. C. Hook, of Charlotte, will prepare plans for the \$10,000 addition for the Orphans' Home.

Charlotte, N. C.—Depot.—The Southern Railway Co. will rebuild its burned depot.

Charlottesville, Va.—Bank Building.—Architect W. T. Vandegrift has prepared plans for the bank and office building to be erected for the People's National Bank, to have iron beams and window guards, vaults and deposit boxes, steam heating, etc.; cost \$10,000.

Charlottesville, Va.—Store.—W. T. Vandegrift has prepared plans for a building for store for Letterman Brothers, to have galvanized iron cornice and skylights, iron beams, shutters, store fronts and window guards, steam heating, etc.; cost \$8000.

Clay County, W. Va.—Hotel, Temple, etc.—The proposed Methodist Chatauqua will be located on Mt. Pisgah, in Clay county, on the new Charleston, Clendenin & Sutton Railroad. The grounds will be laid off at once, and a great temple, large hotel and cottages will be built. Hon. W. A. MacCorkle, governor, Charleston, W. Va., can be addressed.

Cobham, Va.—Church.—I. E. A. Rose has prepared plans for rebuilding the Grace Church at Cobham; cost \$10,000.

Comorn, Va.—Jail.—The new jail to be built at the courthouse of this county will cost \$3000 and will be entirely modern. It will have but one floor, and steel cages will constitute the "cells." P. B. Burks is the contractor.

Crowley, La.—Warehouse.—The Pickett Rice Milling Co. will build a warehouse.

Goldsboro, N. C.—Asylum.—Sealed proposals will be received by the building committee until June 1 for completing new annex to Eastern Asylum at Goldsboro. Plans and specifications can be seen at the asylum and at the office of A. G. Bauer at Raleigh. Address Dr. J. F. Miller, superintendent.

Hallettsville, Texas.—Mauer & Wesling, of La Grange, have prepared plans and taken contract from Fry & Brannig for the erection of a \$4000 building.

Houston, Texas.—Cottages.—Permit to A. L. Neils to erect four cottages at a cost of \$10,000.

Jackson, Miss.—College.—Contract for rebuilding Bellhaven Female College has been awarded to W. J. McGee, of Memphis, Tenn., at about \$10,000.

Jeannerette, La.—Store.—F. L. Derouen is building an iron-front store building 30x60 feet.

Kansas City, Mo.—The Missouri, Kansas & Texas Trust Co., through George Matthews, its

architect, has a permit to remodel buildings for the Lyceum Building to cost \$20,000.

Kansas City, Mo.—Buildings.—Permit has been issued for the foundation for the new business house at 608 and 610 Wyandotte street to be occupied by Barton Bros.; Brown & Pullman are the contractors, and the foundation's cost will be \$8000. H. N. Atkinson, a Texas capitalist, recently purchased the northeast corner of Oak and Independence avenue and has determined to build there; George Mathews will make plans for a two-story business block. T. L. Davis will build a business-house to cost \$2500. L. A. Hines has permit for a brick hotel to cost \$10,000; it will be three stories high, and the ground dimensions will be 36x126 feet.

Key West, Fla.—Auditorium.—The Key West Improvement Association is raising funds to erect an auditorium; \$25,000 is the cost proposed.

Knoxville, Tenn.—Asylum.—A \$20,000 addition will be built to Lyons View Asylum. Address the superintendent.

Louisville, Ky.—Dwelling.—Maury & Dodd have prepared plans for a dwelling to cost \$15,000. Same architects have prepared plans for a residence for Thos. Gowdy, to cost \$7000. Diehl & Aibus have prepared plans for a store building for Geo. Schuster, to cost \$12,000. C. S. Kellar has prepared plans for three residences, to cost \$5000. Val. P. Collins has prepared plans for a residence, to cost \$5000. Fred Erhart has prepared plans for a residence for W. L. Fitch, to cost \$5000. P. J. Gnuw will erect two residences; cost \$8000.

Martinsburg, W. Va.—Hotel.—The St. Clair Hotel has been sold to the Citizens' National Bank for \$18,000. The hotel will be remodeled and improved for a bank building.

Morgantown, W. Va.—Church, etc.—J. E. Allison, Pittsburg, has prepared plans for a church and school for Morgantown, Va., to have electric lighting, furnace, etc.; cost \$20,000.

Natchitoches, La.—Courthouse.—Bids for the proposed new courthouse are invited for the demolition of the old and the building of a new courthouse, according to plans and specifications on file at the clerk's office, Natchitoches, and at the office of Favrot & Livaudais, architects, New Orleans, La.; bids to be submitted by 12 M., June 3. For any further information address J. C. Trichel, president police jury, Natchitoches.

Natchitoches, La.—Courthouse.—Bids will be opened June 3 for building a new courthouse; Favrot & Livaudais, of New Orleans, architects. J. C. Trichel can be addressed.

New Orleans, La.—M. Levy, of Mobile, Ala., has purchased for \$65,000 a property on the site of which, it is said, he will erect an eight-story building.

New Orleans, La.—Dwellings, etc.—G. M. Torgerson has prepared plans for a residence for Marshall J. Smith, to have hot-air heating; cost \$6500; contract awarded to Maas & Son. C. E. Kells, Jr., has prepared plans for a residence for himself, to have electric and incandescent lighting; cost will exceed \$12,000. Plans have been prepared for a store building for Philip Le Goaster (P. A. Bacas, agent), to cost \$5000; contract has been awarded to T. J. Casey. De Pass & Behan have prepared plans for four dwellings for L. P. Rice, to have electric bells, hot water and air heating, etc.; total cost estimated at \$14,000. Plans have been prepared for four dwellings for C. E. Leach, to have incandescent lighting, etc.; total cost \$15,000; contract awarded to L. R. Jenkins & Co.

New Orleans, La.—Warehouse.—C. Jenkins has prepared plans for a warehouse and store for John T. Gibbons to have steel beams, hand power freight elevator, incandescent lighting; cost \$7000; contract has been awarded to Muir & Fromherz.

Paris, Texas.—School.—West Paris is about to issue bonds for \$10,000 to build a schoolhouse. Address the mayor.

Sevierville, Tenn.—Courthouse.—McDonald Bros., of Louisville, Ky., are architects for the new courthouse lately noted. The building is to be three stories high, have 80-foot front, clock and bell tower and estimated to cost \$21,600. Bids are to be opened about June 15, or later; Jno. Chandler, county clerk.

Shiner, Texas.—Stores.—Welhausen, Seydler & Walters will erect five one-story brick store buildings to cost \$12,500; plans by and contract let to Mauer & Wesling, of La Grange.

Staunton, Va.—Hall.—T. P. Collins has prepared plans for a public hall to be erected for the Staunton Lodge, I. O. O. F., to have iron store front, scenery for theatre, opera chairs, steam heating, etc.; cost \$10,000.

St. Joseph, Mo.—Theatre.—W. Angelo Powell has prepared plans for a summer theatre to be erected at King Park for the street-railway company, to have Ruberoid roofing, frescoing, scenery for theatre, stage machinery, opera chairs, electric lighting; cost \$2500.

St. Louis, Mo.—Opera-house.—C. W. Kellogg & Son have prepared plans for the opera-house contemplated by M. Hilton, to be fire proof, have composition and gravel roof, architectural iron work, iron beams, columns and stairs, scenery for theatre, opera chairs, electric bells and lighting, one boiler, steam heating, etc.; cost \$50,000. The

auditorium will have a seating capacity of 1800, 400 lights and contain all modern appliances required in a first-class playhouse.

St. Louis, Mo.—Commercial Building.—John E. Liggett will erect a commercial building on a lot 130x150 feet. H. E. Roach & Son are the architects, and the building is to have seven stories and a basement, and constructed on the slow combustion plan; stone, iron, glass and brick will be used for the outer walls. The building will contain steam and electrical plants and equipped with passenger and freight elevators. Bids will be opened next week, and the contract will be let by June 1, with the provision that the structure must be finished by May, 1896. The cost will be \$150,000.

St. Louis, Mo.—Temple.—The Masons are considering the purchase of the old Masonic Temple from Wm. B. Thompson and reconstructing it at an estimated cost of \$150,000. Isaac H. Taylor is to be the architect.

St. Louis, Mo.—C. W. Kellogg & Son have prepared plans for a building to contain sixteen flats and one store for Ira J. Hedrick, to cost \$16,000. Grable, Weber & Groves have prepared plans for a store and flat building, to cost \$10,000. O. J. Wilhelm has prepared plans for a store and flat building for J. F. Lawman, to cost \$8000. R. A. Berger has prepared plans for a flat building for J. F. Hohlman, to cost \$6000. C. W. H. Brown & Son have prepared plans for a store and flat building for J. M. Carpenter to cost \$7000. W. H. Foster has prepared plans for a dwelling for the Norwood Park Improvement Co., to cost \$5000. P. F. Meagher has prepared plans for a flat building for W. B. Sparrow, to cost \$4000.

St. Louis, Mo.—Business House.—Ellis Wainwright will erect a building of brick, stone and iron, six stories, 26x127 feet, have passenger and freight elevator and probably electric-light plant; cost complete \$70,000. Chas. K. Ramsey will be the architect.

Sumter, S. C.—Warehouse.—The Sumter Tobacco & Cotton Warehouse Co. has been chartered to build a warehouse; R. M. Wallace, president; Neil O'Donnell, vice-president; Abe Ryttenberg, secretary and treasurer.

Swainsboro, Ga.—Store.—J. A. Coleman will erect a storehouse.

Terra Alta, W. Va.—Hotel.—The Lake Terra Alta Improvement Co. contemplates building a hotel; Jno. P. Jones, president.

Terrell, Texas.—Hall.—Terrell Lodge of I. O. O. F. has awarded the contract for the erection of new building, 48x100 feet, two stories high.

Valdosta, Ga.—Institute.—The Valdosta Institute will expend \$6000 on additions to its buildings.

Waco, Texas.—Cotton Palace.—The Cotton Palace directory has accepted the plan of Lamour & Dodson, of Waco. The cost of the auditorium and exposition building together is estimated at \$40,000. It is to be brick and steel throughout. In addition to the building the directors will authorize expenditures of \$7000 for plumbing, lighting and seats and \$10,000 on decorations, making the total cost of the Cotton Palace \$60,000.

Wacharia (not a postoffice), La.—Church.—Harrod & Andry, New Orleans, have in preparation plans for church to be erected at Wacharia, to have pipe organ, furnace, electric lighting, etc.; cost \$25,000.

Yazoo City, Miss.—Church.—Harrod & Andry have prepared plans for a church to be erected at Yazoo City, to cost \$20,000.

Yoakum, Texas.—J. Huth will erect a \$2500 building; plans and erection by Mauer & Wesling, of La Grange.

RAILROAD CONSTRUCTION.

Railroads.

Asheville, N. C.—The French Broad Railroad Co., recently chartered by the North Carolina legislature, proposes to build a line from Asheville to Belwood in Transylvania county.

Atlanta, Ga.—Thomas M. Barna, George H. Benning, ex-Gov. R. B. Bullock and others have formed a company to build a line from Atlanta to a point in Murray county between the Georgia and Tennessee line, also a branch to Cartersville, Ga. The capital is to be \$2,000,000, and the company is to be called the Georgia & Tennessee Railroad Co.

Augusta, Ga.—The rails for reconstructing the Augusta Southern line have been received, and the work of changing it to standard gauge is to begin at once. James U. Jackson is president.

Belton, Texas.—Messrs. Peyton & Co. state that business men have secured \$30,000 in stock subscriptions for the proposed road from Belton to McGregor or Waco. The Commercial Club of Waco will take up the project.

Belton, Texas.—Stock subscriptions to the amount of \$30,000 have been secured for the proposed road from Belton to connect with the St. Louis Southwestern at McGregor.

Braidentown, Fla.—The Palmetto Terminal Railroad, a short spur built from Braidentown to the fruit and vegetable plantations on the outskirts of the town, has been completed. J. N. Stroth is the main promoter.

Cartersville, Mo.—The Fitch Electric Railway Co. has received permission to build an electric road in the city.

Charleston, S. C.—It is reported that the Plant Railway & Steamship Co. may extend its main line from Ashley Junction into the city limits.

Charleston, S. C.—The South Carolina & Georgia Company has asked permission of the city council to extend its road to the wharf front.

Charleston, S. C.—Subscriptions to the stock of the Security Construction Co., which is promoting the proposed railroad from Charleston to Tennessee, are being received by J. M. Seignious, secretary.

Charleston, W. Va.—Gov. W. A. MacCorkle advises the MANUFACTURERS' RECORD that the Porter's Creek & Gauley River road is to begin on Porter's creek, at the mouth of the Elk river, and extend to a point on Coal river near the mouth of Twenty Mile creek. It is to connect the Charleston, Clendennin & Sutton, now building, with the Coal River division of the Chesapeake & Ohio.

Crowley, La.—The Southern Pacific Company has decided to build a 12 mile extension of its Louisiana Midland division, and has surveyed the route. T. Kruttschnitt, at New Orleans, is general manager.

Denison, Texas.—Work has begun on the Denison Northern, which is to be built from Daugherty, I. T., to Lehigh through the coalfields in that section, a distance of seventy-three miles. W. J. Scott and G. H. Brown, of Kansas City, are among the promoters.

Fairmont, W. Va.—It is stated that the Monongahela River Railroad Co. has decided to have its line surveyed at once from Sistersville or New Martinsville, on the Ohio River Railway, along Ten-Mile creek to Fairmont. J. A. Frickinger and E. R. Curtis have been employed as engineers.

Gainesville, Fla.—The name of the Gainesville, Rocky Point & Micanopy has been changed to Gainesville & Gulf. The road is to be extended to Brooksville. It is now being operated to a point twenty-five miles from Gainesville. V. J. Herlong is president.

Galveston, Texas.—Eugene Sweeney, also the Galveston, La Porte & Houston Railway Co., have received permission from the city council to construct railway-terminal tracks. J. Waldo is vice-president of the latter company.

Huntington, W. Va.—The company promoting the railroad along the Guyandotte river is called the Columbus, Huntington & Guyandotte River Company. J. L. Caldwell, of Huntington, also John H. Holt and W. G. Dacey, of New York, are interested. The route is to traverse Cabell, Lincoln, Logan and Wyoming counties, beginning at Huntington.

Jacksonville, Fla.—The State legislature has passed bills incorporating the Titusville, Canaveral & Peninsular and Western Peninsular railway companies.

Marksville, La.—The St. Louis, Avoyelles & Southwestern Company has purchased 3600 tons of 56-pound rails, has twenty-eight miles of road graded and expects to have thirty-six miles completed by July 15. It extends from Bunkie to Simmsport, La., with a branch from Simmsport to Marksville and the Red river. It is also intended to extend the road eventually to New Orleans and Baton Rouge. F. M. Welsh, of Bunkie, is president, and W. J. Hilands, of Cleveland, vice-president.

Montgomery, Ala.—The Tallahassee Falls Manufacturing Co., in a letter to the MANUFACTURERS' RECORD, confirms the report that it is planning a railroad from its mills at Tallahassee, Ala., to a point on the Savannah, Americus & Montgomery system.

Pensacola, Fla.—The project to build a railroad from Meridian, Miss., to Pensacola, to give the Queen & Crescent route another tidewater terminal on the gulf, has been revived by Alexander Stoddard, of Pensacola. It is claimed that the city will take \$100,000 worth of the bonds to build such a road.

Shreveport, La.—The Kansas City, Pittsburg & Gulf system has arranged to extend its line into Shreveport. E. L. Martin, of Kansas City, is president.

Shreveport, La.—Arrangements have been made whereby the Sherman, Shreveport & Southern will extend its road from Jefferson, Texas, into the city, thus allowing the Missouri, Kansas & Texas, of which it is a branch, to enter Shreveport and secure a connection with the Queen & Crescent system. T. H. King, at Greenville, Texas, is vice president.

St. Genevieve, Mo.—The proposed Chester, Farmington & Western road will be seventy miles long in all. It will traverse the Flat River valley and pass through the Chester coalfields. J. A. Reeves and A. J. Cooper, of Chicago, are among those interested. Work is to begin at Chester, Mo.

Velasco, Texas.—L. T. Eads, with Messrs. Wassam and Kose, have begun surveying the proposed Houston, Manvel & Velasco line, which is to extend from Houston to the Velasco Terminal Co.'s road.

Velasco, Texas.—L. T. Eads, of St. Louis, and

a corps of engineers are surveying a road from Angleton to Houston, Texas. An unfinished railway from Velasco ends at Angleton.

Electric Railways.

Atlanta, Ga.—The Consolidated Street Railway Co. will extend its electric line to Fort McPherson in the suburbs. Joel Hurt may be addressed.

Atlanta, Ga.—The Exposition Internal Railway Co. has been organized to build an electric road inside the exposition grounds. Jacob Haas, of Atlanta; J. A. Gaboury, of Jacksonville, Ala., and Charles B. Wilkins are members of the company.

Baltimore, Md.—The Baltimore, Middle River & Sparrow's Point Company has surveyed four and a-half miles of extension which it expects to build; 60 pound steel rails will be used. The company has ordered ten cars for its use. James Young is president.

Baltimore, Md.—The White-Crosby Co., contractors, have begun work on the extension of the Hall's Springs division of the City Passenger Railway. It will be about two miles long.

Charleston, S. C.—It is stated that a Northern syndicate has secured a controlling interest in the Enterprise Railway line, and is endeavoring to purchase the City Railway with the view of rebuilding both for trolley systems. Cuyler, Morgan & Co., of New York, are interested. President Passalunghi, of the Enterprise, and President Riggs, of the City Company, may be addressed.

Charleston, S. C.—John B. Hoefgen and Edgar Moxham, of Brooklyn, N. Y., represent the syndicate which is said to have purchased a controlling interest in the Enterprise and City street railways and which will convert them into trolley systems. They control about twenty miles of line.

New Orleans, La.—The Algiers & Gretna Railway Co. is negotiating for steel rails for reconstructing its road. The trolley system will be used. Thomas Pickles may be addressed.

Portsmouth, Va.—The company which has recently purchased the Portsmouth street-railway lines, it is stated, will extend its system into the trucking district near Portsmouth, also to Gilmeron, on the Dismal Swamp Canal. J. G. Siegfried, of Pottsville, Pa., is president of the company.

Tampa, Fla.—The Consumers' Light & Railway Co., John Douglass, superintendent, will build about a mile of line to Palmetto Beach and may want rolling stock.*

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Belling.—See "woodworking machinery."

Boiler.—The Enterprise Mills, King's Mountain, N. C., will want an eighty to 100 horse-power boiler.

Boiler and Engine.—Wanted, cheap for cash, one twenty to twenty five horse-power engine and boiler, second-hand; one bolting chest, two portable buhr mills, thirty-six to forty-eight inches, second-hand; must be good. Address P. A. R., Sparta, Va., Caroline county.

Boiler and Engines, etc.—The Aluminite Cement Plaster Co., Williamsport, Pa., wants boilers, engines, shafting, etc.

Brick Machine.—G. W. Lambert & Co., Chester, Va., want to buy a stiff-mud brick machine, with cut-off table for wire-cut brick, of 20,000 to 30,000 capacity per ten hours; second-hand preferred.

Cannery.—W. F. Hamilton, Ocala, Fla., Box 341, wants equipments and supplies for a cannery.

Canning Machinery.—Julian B. Lamkin, Lamkin, Ga., wants canning machinery complete.

Canning Machinery.—Chas. S. Findlay, Macon, Ga., wants estimate on cost of machinery for canning 2000 to 4000 cans daily.

Canning Machinery.—The Prosperity Canning Co., Prosperity, S. C., will want process kettles, fire-pots, steam fittings and process and exhaust cranes.

Cement Mill.—The Howard Hydraulic Cement Co., Chattanooga, Tenn., will need milling machinery.

Coal.—Office Board of Police Commissioners, Baltimore.—Sealed proposals will be received at this office until May 28 for furnishing this department with 465 tons (2225 pounds each, more or less) of the best white-ash coal No 1, free from

slate and other impurities. Address E. M. Schryver.

Cotton-mill Machinery.—The Enterprise Mills, King's Mountain, N. C., will want 2500 spinning spindles, 1500 twister spindles, six to eight revolving flat cards, with other machinery and supplies to match. Address I. E. Falls, treasurer.

Cotton-mill Machinery.—The Hamburger Cotton Mills, Columbus, Ga., will want machinery from the lapper to the spindle for about 3000 spindles.

Driven Wells.—Bids for putting in a system of driven wells, and guaranteeing a minimum daily water supply of 2,000,000 gallons, will be opened at the office of the Norfolk city water department June 15. The site to be furnished by city. Each bid must be accompanied by check for \$1000. The work to be done in accordance with specifications furnished by the city engineer and the chief engineer of the department. Specifications will be furnished on application. Independent bids or propositions will also be considered. By order of the board of water commissioners; R. Y. Zachary, superintendent, Norfolk, Va.

Electric Lighting.—See Construction Department under Darien, Ga.

Electric Lighting.—Sealed proposals will be received until August 2 for lighting the streets of the city of El Paso, Texas, by electricity for the term of five years from December 1, 1895; not less than fifty lights to be furnished, and all lights to be of not less than 1200 candle-power. Copies of contract to be entered into will be furnished on application. Address R. F. Campbell, mayor, or W. T. Kitchens, city clerk.

Electric Light Plant.—Bids will soon be asked for erecting electric-light plant for the city of Owensboro, Ky. Plans and specification will be ready in a few days. Address the mayor.

Electric Wiring.—Sealed proposals will be received until May 22 for wiring the United States building at Paducah, Ky., for a system of electric lighting. Specifications can be had upon application to the custodian of that building. Proposals should be addressed to the Secretary of the Treasury, Washington, D. C., and endorsed "proposals for wiring United States building, Paducah, Ky.," W. E. Curtis, acting secretary.

Electric Wiring.—Sealed proposals will be received until May 27 for wiring the United States building, Monroe, La., for a system of electric lighting. Specifications can be had upon application to the custodian of that building. Address the Secretary of the Treasury, Washington, D. C., and endorse "proposals for wiring United States building, Monroe, La.," W. E. Curtis, acting secretary.

Evaporator.—Burns Bros., Charlotte, N. C., want to buy a grape evaporator.

Flour Mill.—The Riverside Planing Mill, Kingsport, Tenn., wants complete outfit for roller flour mill.

Flour-mill Machinery.—See "boiler and engine."

Furnace.—The Allegheny Company, Half and G streets S. W., Washington, D. C., wants description of a down-draft furnace for steam boiler combining any device for abatement of smoke.

Gas Engine.—S. W. Murray, Newnan, Ga., is in the market for a small gas or gasolene engine.

Heaters and Separators.—The A. A. Griffing Iron Co., Jersey City, N. J., desires information concerning separators and feed-water heaters.

Hosiery Mill.—E. R. Ginn, secretary, Varnville, S. C., wants complete particulars regarding hosiery and underwear mill, including cost of machinery, operation, profits, etc.

Lathe.—The Seibel-Suessdorf Copper & Iron Manufacturing Co., St. Louis, Mo., wants a brass-finishers' lathe, latest improved.

Lathe.—Wanted, turret lathe in perfect order, with countershaft. Address K 560, Sun Office, Baltimore, Md.

Lathe and Press.—Marye & Wright, Greenwood, Miss., are in the market for lathe and drill press, second-hand.

Leather, etc.—The Wilsons Shoe Manufacturing Co., Brunswick, Ga., wants to buy sole leather and upper leather, shoe findings, etc.

Locomotive.—The Oglethorpe Brick Co., Oglethorpe, Ga., will need a four to eight horse power locomotive, 36-inch gage.

Machine Tools.—Wanted, a power press, steam hammer and small shears. Address T. A. S., 718 East Baltimore street, Baltimore, Md.

Machine Tools.—The Warrior Machine Works, Birmingham, Ala., wants engine lathe, 18-inch swing, 12 foot bed, compound rest hollow spindle, taper attachment; engine lathe, 21-inch swing, 16 foot bed, compound rest, taper attachment; drill press, 40 inch, back-gear, power feed; radial drill, 60 inch; one cutting-off and centering machine to cut from one to four-inch shafts.

Oil Machinery.—The Grovania Oil & Fertilizer Co., Gr.vania, Ga., wants two heaters or ovens to cook cottonseed meal and press to bale cottonseed hulls.

Paving, etc.—The city of Laurel, Md., is about to ask for bids on improvements to sidewalks, macadamizing roads, etc.; Jno. W. Gray, clerk.

Pipe.—Bids are invited for laying about 2300 feet of six-inch pipe, etc., as per terms and specifications on file, until noon of Wednesday, 29th inst. Contractors will furnish pipe, labor and all material, and will bid in lump sum for the work. Bids will be addressed to the president of the New Orleans Water Works Co., New Orleans, La.

Pulverizing Machinery.—The Aluminate Cement Plaster Co., Williamsport, Pa., wants pulverizing machinery for dry clay in the lump.

Pump.—Wanted, a pump for compressing air—one that will work against and maintain a pressure of 100 pounds, and do good service. Address A. B. Coleman, Gonzales, Texas.

Press.—See "oil machinery."

Press and Shears.—Wanted to buy, a power press for stamping with cut and dies, also pair eight-foot square shears, at 718 East Baltimore street, Baltimore, Md.

Printing Press.—Wanted, a good job-printing press, foot power; chase about 10x15 inches; state price and where it can be seen. Address Press 495, Sun office, Baltimore, Md.

Rails.—Geo. O. Tenney, Clifton, S. C., wants 900 feet of second-hand T rails, light.

Rails.—J. R. Williams & Co., Arvon, Va., want a carload of 12 and 16-pound steel T rails and fastenings, delivered.

Railway Car.—The Consumers' Electric Light & Street Railroad Co., Tampa, Fla., wants to buy a combination car.

Railway Equipment.—The Wray Mining Co., Cedartown, Ga., will want a second-hand six to ten-ton three foot gage locomotive, two and a-half miles of light rails for temporary use and one mile of four-inch cast-iron pipe.

Railway Supplies.—Geo. Peacock, Selma, Ala., is in the market for one or two carloads of old car wheels.

Roofing.—The Milledgeville Oil Co., Milledgeville, Ga., wants material to cover main building of its mill. Heaters are in this building, and steam consequently keeps under side of roof damp.

Roofing and Sewage Plant.—Proposals are wanted until May 28 for building a new roof on the jail; also for constructing a plant for disposal of sewage from laundry and blind asylum at the city poorhouse. Address Robert E. McMath, president board of public improvements, St. Louis, Mo.

Sewers.—Office of the Commissioners, D. C., Washington, D. C.—Sealed proposals will be received until June 3 for constructing sewers in the District of Columbia. Specifications and blank forms of proposals may be obtained at this office; John W. Ross, George Truesdell, Chas. F. Powell, commissioners.

Shave and Shingle Machine.—The Centreville Lumber Manufacturing Co., Limited, Centreville, La., will want a shingle machine and shave (barrel) machine.

Steaming Tank or Digester.—J. L. Bickerstaff & Co., 2800 Broad street, Piedmont, Va., want to purchase second-hand bone steaming tank or digester capable of carrying sixty pounds steam pressure, capacity about 120 cubic feet, or two of sixty cubic feet capacity each.

Steel Frames.—Sealed proposals, in duplicate, will be received until May 29 for furnishing and erecting complete the steel frame for a fire-proof building to be constructed at the United States government printing office. Amount of steel required is 450 tons, more or less. Plans can be seen, and specifications and forms for proposals obtained. Address John M. Wilson, colonel engineers, War Department, Washington, D. C.

Water-wheel, etc.—E. Holt Easley, Houston, Va., wants water-wheel, second-hand, seventy-five to 150 horse-power; two sheaves with rubber filling, seven to nine feet diameter.

Water Works.—Bids will be received until July 2 to construct and maintain water works in the city of Greenville, Miss., city granting a 25-year franchise, or to construct works for the city; water to be taken from wells. For further particulars address Jno. M. Lee, clerk.

Water Works.—Proposals will be received by John W. Gray, city clerk, Laurel, Md., until June 1 for supplying the city with water works, to consist of an iron reservoir on steel lattice work or brick wall, to give ample pressure for fire purposes, to be connected by eight-inch iron pipe with pump-house, to consist of one-story brick building, with iron roof, to contain one forty to fifty horse power slow-speed pumping engine; also about 7500 feet of four inch and six inch distributing main, with necessary gates, valves, elbows, etc., complete; reservoir to contain supply enough for a population of 7500.

Woodworking Machinery, etc.—H. H. Blitt, Sanford, N. C., will probably want second-hand flooring machinery, a 14-inch planer and matcher, trimmer, edger, shafting, pulleys, dust fan, belt, etc.

An excellent opportunity for investment will be found in the advertising columns of this issue. The opportunity lies in establishing telephone exchanges in the South, and the advertiser can place from \$5000 to \$30,000 profitably.

THE latest catalogue of the Taunton Locomotive Manufacturing Co., of Taunton, Mass., is a catalogue of the Wainwright specialties, such as feed water heaters, surface condensers and expansion joints. As is well known, these devices combine many features which are of the greatest practical value, and they have become favorites wherever put to practical use; in fact, some of the features are so devised that it is really surprising the amount of fuel and steam which can be saved by their use.

In another column of our advertising pages the Fifield Tool Co., of Lowell, Mass., announces for sale a number of engine lathes for immediate delivery, varying in size from 20-inch swing, with 6, 10 and 12 foot bed, to others of 50 inch swing, with 18 and 28 inch bed, one of each size. Prospective purchasers are invited to send for cuts and prices to the home office of the company, Lowell, Mass. The Fifield Tool Co. has the distinction of occupying the largest floor space for the manufacture of engine lathes in the country, and its name alone is sufficient guarantee for the excellence of its product.

THE whaleback steamer City of Everett arrived yesterday, eighty-two hours from Comox, with 385 tons of coal, and proceeded, as usual, to Port Costa direct to discharge. She is getting into the pendulum act very rapidly, and will soon swing back and forth with the regularity of the pendulum of an old grandfather's clock. Just now the transition period in shipping is in full force on this coast, and if the American Steel Barge Co. takes advantage of that fact, it is a fair prediction that by adding a few steamers of the same type as the Everett, each with a tow of several barges, sailing vessels and tramp steamers will be driven off the route between the coal ports of the North, and San Francisco and Southern California ports that are the buyers of the black diamonds mined up there. Each steamer, if she is provided with a steam towing machine such as the Saturn (now in the Panama line) has, and which is manufactured by the American Ship Windlass Co., and which are so successfully employed on the Atlantic, it is safe to say, except that it may hurt the feelings of the Commercial News subscribers who own sailing vessels or chartered tramp steamers, that the whaleback will monopolize the coal carrying trade on this coast and deliver cargo more regularly and at less expense than is done at present by the miscellaneous fleet employed.—Everett City Commercial News.

THE *Southern States* magazine is read by thousands of farmers, fruit-growers, stock-raisers and business men in all the North, West and Northwest, who are looking to the South as a future home and are trying to inform themselves as to the relative advantages of different parts of the South. If you have farm, garden or orchard property for sale the *Southern States* will put you into communication with buyers. Send for sample copy and rates. Manufacturers' Record Publishing Co., Baltimore, Md.; Wm. H. Edmonds, editor and manager.

Deer Park, on the Crest of the Alleghantes.

To those contemplating a trip to the mountains in search of health and pleasure, Deer Park, on the crest of the Alleghany mountains, 3000 feet above the sea-level, offers such varied attractions as a delightful atmosphere during both day and night, pure water, smooth, winding roads through the mountains and valleys, and the most picturesque scenery in the Alleghany range. The hotel is equipped with all adjuncts conducive to the entertainment, pleasure and comfort of its guests.

The surrounding grounds, as well as the hotel, are lighted with electricity. Six miles distant, on the same mountain summit, is Oakland, the twin resort of Deer Park, and equally as well equipped for the entertainment and accommodation of its patrons. Both hotels are upon the main line of the Baltimore & Ohio Railroad, and have the advantages of its splendid vestibuled limited express trains between the East and West. Season excursion tickets, good for return passage until October 31, will be placed on sale at greatly reduced rates at all principal ticket offices throughout the country. One-way tickets, reading from St. Louis, Louisville, Cincinnati, Columbus, Chicago, and any point on the B. & O. system to Washington, Baltimore, Philadelphia or New York, or vice versa, are good to stop off at either Deer Park, Mountain Lake Park or Oakland, and the time limit will be extended by agents at either resort upon application to cover the period of the holder's visit.

The season at these popular resorts commences June 22.

For all information as to hotel rates, rooms, etc., address George D. DeShields, manager, Deer Park or Oakland, Garrett county, Md.

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CHARLOTTE, N. C. —The Buford Hotel, Charlotte, N. C., has recently been remodeled and refitted, and is receiving a liberal share of patronage. The new proprietors, Messrs. Farintosh & Amer, are both experienced hotel men, and every department is in the hands of capable assistants.	
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The advertiser has for sale one of the most attractive properties in the South. It comprises 1300 acres, 450 being in cultivation and 700 in virgin pine forest. It has exceptionally good railroad facilities. The land will produce large crops of corn, cotton, tobacco and all ordinary crops, and is particularly well-suited to trucking and fruit-growing. In the centre of the property there is a beautiful clear lake covering 150 acres, which abounds in fish and is a favorite haunt of ducks and other waterfowl. It is admirably adapted to boating, bathing, etc. The land surrounding the lake is entirely free from swamp and marsh, and affords beautiful sites for residences. The forest and fields abound in all kinds of game. As a hunting preserve this place cannot be surpassed. It could be made one of the most delightful homes in the South. For a fine resort hotel no better place can be found in America. The locality is pre-eminently healthy. Price \$10,000. For particulars address B. S. C., care MANUFACTURERS' RECORD.	

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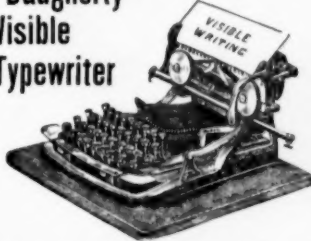
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WE WANT TO SELL.
WE WANT TO EXCHANGE.**
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Reasonable terms. For further particulars ad-
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Portable Steel Railroad Culverts.
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26 in. x 20 ft. 12 in. stroke Shaper
29 in. x 13 ft. 19, 36 and 50 in. Drills.
29 in. x 12 ft. 19 in. stroke Slot Mch., Bement
37 in. x 30½ ft. 2 in. Bolt Cutter.
50 in. x 30 ft. 80 lb. Bradley Hammer.
72 in. x 20 ft. 1000-lb. Steam " F. & M.
Boiler Rolls, 6 ft. Punch & Shear, double.
10-ton Boom Derrick, with guy ropes, 10-16 ft.
Vertical Boring and Turning Mill, Gear Cutter,
Blower, Vises, Anvil, Cranes, &c.
Write for prices and description.
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145 B'dway and 86 Liberty St., NEW YORK

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Valuable Machinery and Real Estate

in whole or in part,
Located in Albany, N.Y.
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MUST BE SOLD AT SOME PRICE.

About 475 feet river front.
Lot about 550 feet deep.
Main Building 208 by 52
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boilerhouse adjoining.

Containing one 200 horse-
power compound DUPLEX
ENGINE. Two 100 horse-
power BOILERS, thoroughly
equipped, finely set and with
all attachments. 190 feet main
Shafting, with Belting, much
counter-shafting.

Water supply, drainage,
perfect sewerage, and steam
heating throughout.

All new and in perfect order
ready to start fires.

Railroad within sixty feet.
Cost in actual cash paid
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Rare opportunity for manu-
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ALL OFFERED AT A TREMENDOUS SACRIFICE.

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If in want of New or Second-Hand
ATTENTION!

SECOND-HAND MACHINERY.

One Iron Planer, 8 ft. 34x30 in., New Haven.
One Iron Planer, planes 7 ft. 26x26 in. Gould.
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and various other sizes.
One Engine Lathe, 26 in. x 10 ft. D. W. Pond.
One Engine Lathe, 15 in. x 6 ft.,
One L. W. Pond Lathe, 18 ft. x 53 in. swing.
One Putnam Lathe, 14 ft. x 30 in. swing.
One 18 ft. Pitt Lathe.
and various other sizes.
One 26-in. B. G. Self-feed New Haven Drill.
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One 1200-lb. Steam Hammer.
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32 in. x 8½ ft. D. W. Pond Engine Lathe, C. Rest
and P. C. Feed. A heavy massive tool
in good order.
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attachments.
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144 in. x 35 ft. Gas Engine Lathe.

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1 15x6 Pratt & Whitney Lathe.
1 18x8 Pratt & Whitney Lathe.
1 20x8 Niles Lathe.
1 21x14 Engine Lathe.
1 21x24 Pratt & Whitney Lathe
1 22x10 Niles Lathe.
1 24x18 Leonard Lathe.
1 24x12 Steptoe Lathe.
1 28x14 Steptoe Lathe.
1 30x28 Sellers Lathe.
1 36x18 Perkins Lathe.

PLANERS.

1 16x16x3 Pratt & Whitney Planer.
1 24x24x8 Lodge & Davis Planer.
1 26x26x6 Lodge & Davis Planer.
1 30x30x8 Sellers Planer.
1 30x30x10 Bement Miles Planer.
1 32x32x8 Lodge & Davis Planer.
1 32x32x12 Gray Planer.
1 36x36x12 Pond Planer.
1 36x36x12 New Haven Planer.

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1 5 ft. Niles Plain Radial Drill.
1 12 in. Sensitive Drill.
1 20 in. Lodge & Davis Sliding Head Drill.
1 26 in. Putnam Sliding Head Drill.
1 28 in. Lodge & Davis Drill.
1 32 in. Upright Drill.

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1 8 in. Crank Shaper.
1 12 in. Lodge & Davis Crank Shaper.
1 15 in. Traveling Head Shaper.
1 20 in. Lodge & Davis Crank Shaper.
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1 6 ft. Greenwood Boring Mill.
1 ¾ in. Long & Alstatter Punch and Shear.
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Engine Lathes 14 to 40 in. swing.
Planers 24 to 54 in. wide.
Drill Press 12 to 42 in. swing.
Radial Drills 3, 4, 5 and 6 ft. arms
Shapers 14, 16, 21 and 26 in. stroke.
Plain Milling Machines (4 sizes).
Universal Milling Machines (3 sizes).
¾, 1, 1½, 1¾ and 2 in. Screw Machines.
12, 15 and 18 in. Monitor Lathes.
12, 14 and 15 in. Hand Lathes.
1½ in. and 2 in. Automatic Bolt Cutter.

THE LODGE & DAVIS MACHINE TOOL CO.

CINCINNATI, OHIO, U. S. A.

SPECIAL COTTON MILL SUPPLEMENT.

This Issue.

This issue of the MANUFACTURERS' RECORD speaks for itself. It is in itself the greatest proof that could be given of the remarkable industrial life and activity of the South. It shows what this section is doing, and presents to the world an invitation to study and know this favored land. It exhibits a degree of enterprise and push on the part of Southern towns that must command wide attention.

Many thousands of cotton-mill investors, capitalists and manufacturers throughout the North and West and in Great Britain will have a clearer insight into the advantages of the South, and a better knowledge of what it is accomplishing, after reading this issue than they have ever had before. Its value not simply in attracting attention to the cotton-manufacturing possibilities of the South, but to all the varied advantages of this section as a field for general investment, cannot be overestimated. This issue will be more widely and judiciously circulated among manufacturers and general investors than any publication ever before issued in the interest of the South.

A Contrast.

The South	New England
has	Imports
Cotton,	its
Iron,	Cotton,
Coal,	Iron,
Timber,	Coal,
Agricultural	Lumber,
Capabilities	and Agricultural
without limit, and	Products,
an Unequalled	and has a severe
Climate	climate, adding to
as nature's foundation	the cost of living.
on which to build	The foundation for
the greatest industrial	its industrial inter-
interests of the world.	ests is purely arti-
	ficial.

The tide of development has turned southward. New England cannot continue to compete with the South in many lines of manufacturing, but what it loses in this respect it can more than recoup by becoming closely identified with the development of the South. The profits which its people can make by taking a broad and active part in the mighty work of advancement which is commencing in the Southern States should cause its wise business men to become leaders in Southern development. The South is the most inviting field in the world in which the surplus energy and capital of New England can find profitable employment.

THE SOUTH'S RECORD.

1880,	667,000 Spindles.
1890,	1,700,000 "
December, 1894,	3,000,000 "
Now Building,	500,000 "

A FEW FACTS FOR CONSIDERATION.

The many thousands of cotton manufacturers and general investors in New England and Great Britain who will see this issue of the MANUFACTURERS' RECORD are invited to give a careful study to the South and its advantages for cotton manufacturing, and also for other industries.

In the fullness of time the South's pre-eminent advantages—the unequalled combination of attractions given by nature—are now beginning to command world-wide attention. The tendency of the world's industrial interests is to the raw material—the point of cheapest production. Ten years ago manufacturing was profitable almost everywhere. The margin between cost and selling price was sufficiently great to yield large profits in well-managed concerns without much regard to location. The New England or British cotton mill could afford to pay for hauling cotton from 1000 to 3000 miles, to buy high priced coal, to pay exorbitant taxes, and still have a good profit on production. What was true of cotton was true of iron and woodworking industries also. But in the great economic changes that have taken place of late years the margin of profit has been reduced. The difference between cost and selling price is narrower than ever before; the expense of putting goods in home and foreign markets has been greatly reduced. It has been said that "that country or that section of any country which can produce iron at the lowest cost will ultimately dominate and control the commerce of the world." What shall be said of the future of the South in the light of established facts?

If common sense did not teach us that the South's advantages for cotton manufacturing must force that section to become the textile centre of the world, the testimony of all leading millmen from other sections and the actions of many of them in building mills South and the marvelous growth of this industry would all combine to convince even the most skeptical.

The South has demonstrated the strength of its iron position, and is producing iron at a lower cost than anyone would have dared predict five years ago. It is now preparing to dispute with England for the control of the world's markets in iron, as well as in coal. One great steel plant has been built in Kentucky, and two are to be started in Alabama, thus inaugurating the steel-making era in the South. With one-half of the standing timber of the United States in the South, the inevitable centralization of woodworking industries in this section admits of no question.

No other country in the world has such a combination—cotton, iron, coal and timber—as a foundation for manufactures. To this the South adds agricultural capabilities that cannot be measured, cheapness of production in manufactures and agriculture, water and rail transportation facilities for distribution, an equable climate and a regular and abundant rainfall. If the readers of the MANUFACTURERS' RECORD who have not fully studied this very remarkable strength of the South's position will give it a careful investigation, they will see that that section must become a centre of wealth production beyond anything which any other part of this country has ever known. The wise man will see that now is his opportunity for making judicious investments South, for the growth of that section will create more millions than were ever produced in the development of all of the mighty empire of the West.

The world has 85,000,000 cotton spindles, one-half of which are in Great Britain alone. This country has about 16,000,000 and the South has nearly one-fifth of these, or 3,000,000. And yet the South raises over 60 per cent. of the world's total cotton supply. The field for an increase in Southern cotton mills is unlimited. It would take an investment of over \$1,200,000,000 to build mills enough to consume the entire cotton crop of the South, and when manufactured this cotton would command for the South over \$1,000,000,000 a year instead

of selling for about \$350,000,000, as it does now in its raw state.

Mr. D. M. Thompson on the South's Cotton Interests.

The MANUFACTURERS' RECORD would call special attention to the article by Mr. D. M. Thompson in this issue. The importance of the statements which he makes in regard to the South are of particular moment, when it is remembered that they come from a man of such broad and comprehensive experience in cotton matters both in this country and abroad. Mr. Thompson spent his early life as an operator in cotton mills, working in all departments. Subsequently he turned his attention to mechanics, and later to mechanical mill engineering, and in this branch had

a very extensive practice, and for five years was intimately connected with Southern mill interests. For twelve years he was general manager of the B. B. & R. Knight mills, of New England, the most extensive mill corporation in America, which runs in the aggregate 420,000 spindles and 12,000 looms. Upon the organization about a year ago of a company to purchase the great Corliss Steam Engine Works, of Providence, Mr. Thompson resigned as manager of the Knight mills, and accepted the management of the Corliss Steam Engine Co. as president and treasurer. With such an intimate acquaintance as a life of this kind has given him in regard to every phase of cotton manufacturing, the views which he presents are necessarily of profound interest to every business man. The MANUFACTURERS' RECORD especially commends the position which Mr. Thompson takes—that the textile development of the South means drawing into closer bonds of business relation the Southern States and New England. This is a phase of the cotton-mill business of profound interest to all who are hoping for the best and broadest development of our entire country.

A Few "Don'ts."

Don't attempt to start a cotton mill with insufficient capital.

Don't imagine that because of the South's advantages, cotton mills are bound to pay anyway, and hence good management is not absolutely essential.

Don't buy second-hand machinery, unless you want your mill to fail.

Don't imagine that every place is just suited for a cotton mill, and that every man can run a mill successfully.

Don't fail to secure the best technical advice as to the advantages of your town, and the character of mill best suited to it, before arranging to build.

If anybody wants to know how expert the Seaboard Air Line people are in presenting to the world the attractions of the country tributary to their road, it is only necessary to read the very striking presentation made in this issue. The Seaboard is doing a great work for the country tributary to it—in fact the whole South shares in the benefits—and it deserves the heartiest commendation of everyone interested in the upbuilding of the South. May the South have many other railroad officers that appreciate the value of advertising as fully as do Messrs. R. C. Hoffman, president, and E. St. John, vice-president of this system.

One and one-quarter cents per pound cheaper in the South than in New England is what Mr. Clark, of the great Boott Mill, of Massachusetts, claims can be done in cotton manufacturing. No wonder the Southern mills are prospering, and that New England mill companies are preparing to invest heavily in the South.

The South's Future in Cotton Manufacturing.

So long as the cotton-manufacturing business of the South was handled exclusively by Southern people it attracted only moderate attention throughout New England, but when several of the strongest cotton-mill companies of Massachusetts decided that it was necessary to build large mills in the South in order to hold their trade, cotton-mill investors throughout New England commenced to study the advantages of the South for this industry. This has aroused New England people to a realization of the fact that their cotton-manufacturing interests, which have been so largely instrumental in developing the wealth of their section, have probably nearly reached the limit of growth. Of course, mills now in existence will be enlarged from time to time, and some mills will be built for the production of the finest grade of goods, but the real growth of this industry in this country, however, will be in the South. It would be just as absurd to expect to see iron furnaces built in New England because that section was once an iron producer, as to expect to see many new cotton mills built there. Economic changes forced iron-making elsewhere, and economic changes are forcing cotton mills elsewhere. The success of the mills in the South has fully demonstrated that no other section can compete with it in cotton manufacturing. Up to the present time most of the mills in the South have been established by local men with local money. Southern men have displayed a peculiar aptitude for this industry. Southern capital has sought it as one of the safest and most profitable investments, and Southern working people have proved to be the best cotton-mill help, all things considered, to be found in the country. For years a great many Southern people were skeptical about the ability of their section to become a great iron-producing region until Alabama proved what could be done, but none of them ever questioned the South's ability to make cotton goods at a profit. Cotton has been the South's idol. Its worship in times past found expression in the production of the staple, but now it is turning to its manufacture. In a large part of the South a cotton mill is now regarded as a necessary sign of progress in every enterprising community. Under many disadvantages the South has labored to build up its spinning business. Limited capital and lack of experience have kept the business from being overdone. There has been no rush, no hurrah, no boom in this industry. Steadily and solidly it has been developed. Many companies that started in a small way have, from time to time, enlarged their plant or built new mills out of surplus earnings accumulated after paying good dividends, while their success has stimulated the starting of other mills.

The New England people did not, until a year or so ago, have much faith in the future of this industry in the South. They did not investigate it carefully, hence they did not understand the South's advantages. They believed that their cheap and abundant capital, their long experience and their entrenched position in the trade would enable them to hold their own forever; but the South went on building cotton

mills, and these mills, much to the disappointment of the New England people, kept on paying dividends. Even during the great depression, while many Northern mills were closed, Southern mills with rare exceptions were running on full time. New England cotton manufacturers at last waked up. They commenced to investigate, and during the past twelve months there has been revolution in sentiment as to cotton manufacturing in the South. Three New England companies have already selected locations for large mills in the South, and negotiations are now pending for five or six others. This action necessitates an immediate decision on the part of many other New England companies to build in the South, in order to be able to compete with equal facilities with their present New England competitors who are getting established in the South.

The statements regarding the advantages of the South for cotton manufacturing, so often made by the MANUFACTURER'S RECORD, and its predictions in regard to the future of this industry, for a long time met only with ridicule on the part of our New England friends. Neither the press nor the people of that section were willing to admit that the South would be able to compete with New England mills, even in the production of coarse goods. They claimed that it would be impossible for the South to build up its textile interests to the extent of proving a serious competitor with New England. This position, however, has been gradually abandoned as far as coarse goods are concerned. It will not be very long before New England will have to admit that the South has just as many advantages for manufacturing the finer grades of goods as it had a few years ago for making the coarser grades. This position is now being emphasized by the course of events, and some of the New England papers are at last freely admitting all that has ever been claimed so far as coarse goods are concerned. Their statements fully bear out all the claims that have been presented in behalf of the South's advantages for manufacturing the coarser goods. Pushing the development of this branch as rapidly as it is now doing, the South will soon turn its attention to the higher grades with equal success. The general southward movement of cotton mill investment has already started. Indications all point to great activity in this direction, which, added to what the South itself is doing, will create a period of remarkable cotton-mill building. As iron-making has gone to the source of the raw material, as woodworking has sought the lumber-producing regions, so must cotton manufacturing inevitably centre in the country where nature furnishes the staple and then gives every needed condition for spinning and weaving it to the best advantage.

The missionary of the Gospel, as he penetrates the wilds of Africa and opens up that country to civilization and to clothes, is a drummer for the South's cotton goods, is about the way Henry W. Grady once told how the whole world is annually becoming a better customer for the South's great staple.

CONTENDING FOR A GREAT PRIZE.

Cotton Manufacturing of the World, and What It Means to the South.

THE REMARKABLE PROGRESS OF LATE YEARS.

By Richard H. Edmonds.

The world has about 85,000,000 spindles, representing an investment of probably upwards of \$2,000,000,000. Of this vast industry the United States have a little over one-fifth in capital invested, or over \$400,000,000, and less than one-fifth in the number of spindles, or about 16,000,000. Though the South produces over 60 per cent. of all the world's cotton crop, furnishes the raw material for more than one-half of all the spindles of the world, it has only about one-thirtieth of the total cotton-manufacturing business. For 100 years the South has been raising the cotton, shipping it to New England and to Europe, and permitting the manufacturers of those countries to grow rich on turning it into the finished product. Of all the vast wealth of material with which the South has been so abundantly blessed, there is no other, not even iron, equalling cotton in its possibilities of wealth creation for this section. The \$300,000,000 a year which the cotton crop brings to the South would be trebled if we could manufacture at home all the cotton which we now produce. To do this would require an investment of upwards of \$1,200,000,000. Employment would be furnished to hundreds of thousands of hands, and the vast wealth created in New England and Old England by the production of cotton goods would be more than duplicated in the South. It is needless to say that the South's advantages for cotton production are not more pre-eminent than its advantages for cotton manufacturing. Here where the cotton is raised nature has furnished every requisite for its manufacture at the lowest possible cost; here is found the combination of climate and of the cheapest power, both steam and water, that the world affords, and of an abundant supply of labor easily trained, and which, by reason of the low cost of living, can always be had at a lower cost than labor in other sections, where living must of necessity be more expensive. In the Carolinas, Georgia and Alabama and in some of the other states there are water-powers almost without limit that can be utilized at the lowest possible cost, while in the States where water-powers are less abundant coal can be had at a price almost as satisfactory as water-power. We not only have in the South the raw material without the cost of transportation and other expenses necessary before the cotton can reach Northern or European mills, but we have the natural advantages for cotton mills greater than any other country.

In the last twenty years the cotton crops of the South have sold for an aggregate of about \$6,500,000,000. Before they reached the consumer their value had increased to \$18,000,000,000 or \$20,000,000,000. This enormous business, creating wealth wherever established, is the prize for which the South has now commenced to contend. It is a prize worthy of the most vigorous efforts and energy of any country. Many years ago it was vigorously claimed by the cotton-manufacturers of England that New England could never become a serious competitor with their country in cotton-manufacturing; "our climate," they said, "is better suited for cotton-manufacturing, especially for fine goods; our labor has had more experience and is more skilled; our capital is more abundant and is cheaper." To their minds these arguments were convincing, but while they argued New England went on building mills and making cotton goods. When the South first undertook to develop its cotton-manufactures with any vigor the people of New

England ridiculed its efforts and declared that the South could never develop a large cotton-manufacturing business. "Its climate," they said, "is too enervating and hasn't the degree of moisture needed as ours has; it has no skilled labor; capital is scarcer than with us, and interest rates higher, and besides all these, our New England people are so energetic and so much better able to retain their business than Southern people are to win it away that the South will never become a serious competitor in cotton-manufacturing." The people who said these things, and they included the leading manufacturers and business men generally, honestly believed their own arguments. After a few years they saw that something was wrong with their arguments. Matters were not working out in the way they had predicted. The South was rapidly capturing the coarse cotton trade and absolutely controlling it. Under these conditions it became necessary to find some new arguments, and then it was unanimously decided by all New England, following in the exact footsteps of Great Britain in its arguments of years ago as related to New England that the South could possibly make coarse cottons successfully, but it was out of the question for it to spin fine yarns. "New England," they said, "will always retain its supremacy in fine cottons." Even today such claims are often heard, but they now sound like the graveyard whistle, intended to bolster up courage that is fast slipping away.

Starting without capital and without experience, the South has already practically monopolized the coarse cotton trade, and is pushing into finer goods with the determination to capture that too. It is needless for Great Britain or New England to argue against it. The logic of facts, of things already accomplished, disproves all their arguments. No one pretends to say that the South will spin and weave every bale of cotton that it raises. New England, Great Britain and the Continent will continue as cotton manufacturing centres, but the future great growth of this industry will be in the South. Cotton production and consumption are not stationary. The world's needs are growing. Increasing wealth of the masses increases the requirements per capita of cotton goods. The extension of civilization into the dark places of the world opens new fields for cotton goods. Civilization's advancement is measured by the increase in cotton consumption. This increase is progressive. It must go on constantly, and the 9,000,000-bale crop, which looks as big as a 6,500,000-bale crop did ten years ago, must be exceeded before many years by 10,000,000, and then 11,000,000 and 12,000,000 and gradually on, as the world's ever-increasing requirements shall demand.

With this growth, and even more rapidly than this, will the cotton-manufacturing interests of the South develop. What has been done is but an indication of what will be done. What has been done is shown by the following census figures for 1880 and 1890 and figures compiled by the MANUFACTURERS' RECORD for December, 1894:

	1880.	1890.	1894.
Capital	\$21,976,713	\$61,124,096	\$107,900,000
No. of mills	180	254	425
No. spindles	667,754	1,712,930	3,023,000
Looms	14,323	39,231	68,000

†Estimated on basis of average capital per spindle in 1890.

Making another form of comparison, we have:

Years.	No. of spindles.	No. of Looms.	Bales consumed crop year ending August 31.
1860.....	217,291	5,615	10,502
1870.....	416,883	8,203	94,084
1880.....	667,754	14,323	233,886
1890.....	1,712,930	39,231	573,844
1893.....	2,550,000	54,000	743,848
1894.....	3,023,859	68,000	718,515

While the increase in the number of spindles in Southern mills from 667,000 in 1880 to 2,500,000 in 1893 was taking place, the increase in the rest of the country was from 9,986,000 to 12,777,000, the gain in the South being 270 per cent. and in the whole country outside of the South 28 per cent. In 1880 the South had one-fifteenth of the number of spindles in the country; now it has nearly one-fifth of the number. As rapid as this growth has been, it must be still more rapid in the future. Fortunately, the building of cotton mills never became a town-booming feature, as was the case with iron furnaces; hence, there have been no financially-crippled mills to reflect on the South's advantages for cotton spinning. Cotton mills are probably the most popular form of investment for local capital in the Carolinas and Georgia. Nothing else seems to appeal so directly and forcibly to all who have spare money to invest. The result is that the astonishing advance in mill-building in those States has been due almost wholly to local capital. They are in nearly all cases earning good profits, thus steadily increasing the popularity of cotton mills as a safe place for money. Virginia, Alabama and Tennessee have given considerable attention to the development of their cotton manufactures, but their progress in the development of this industry has been very much slower than that of the Carolinas and Georgia. In the other Southern States some advance is being made, but it is to be regretted that so little has been accomplished in a field of such vast possibilities.

One of the most marked features of the industrial development of the entire country has been the very great activity in cotton-mill building in the South. The success of the mills in operation, even during the hard times of 1893, demonstrated as nothing else had ever done the inherent strength of the South's position for this business. Even before there were any signs of revival in general business interest throughout the country there was a decided tendency towards increased cotton-mill building in the South on the part of Southern people. Mills already in operation commenced making extensive additions, while many new mills were projected. Following this came the decision some months ago of several of the largest mill companies in New England to build mills in the South. The Massachusetts Mills Co., one of the oldest and strongest corporations of Massachusetts, is building a \$600,000 mill, to have 30,000 spindles and 1200 looms, at Rome, Ga.; the Dwight Company, another one of New England's leading mill concerns, is building a \$500,000 mill at Gadsden, Ala., while half a dozen or more equally-as-noted companies are now negotiating with a view to erecting mills of equal cost in various parts of the South. This tendency of New England money to seek investment in Southern mills, after a most complete and thorough investigation on the part of the New England people, is attracting wide attention. It has stimulated Southern people to a greater realization of the opportunities presented for cotton manufacturing, and thus brought about the organization of many new mills during the last few months.

At the present time the mills now under construction in the South, including enlargements of established plants and those

which have been sufficiently far advanced in organization to assure their early building, will have upwards of 500,000 spindles, representing an investment of over \$12,000,000. In December last Southern mills, including those well on toward completion, had about 3,000,000 spindles, so that by the end of 1895 there will be not far from 3,500,000 spindles in operation in the Southern States. This remarkable activity is more especially noticeable in view of the fact that comparatively few new spindles are being added to those in operation in New England.

It is probable that early in the new-crop year nearly 3,000,000 spindles will be in operation, thus insuring a consumption of about 1,000,000 bales a year in the South, and from that time forward, as the mills now under construction are completed, the expansion of Southern cotton consumption will rapidly increase. While there is no possibility of the South extending its textile business beyond a profitable point so long as it is producing 60 per cent. of the world's cotton, and yet has only 4 per cent. of the world's spindles, there may, of course, be some danger of inexperienced men, with limited capital, rushing into cotton-mill building to their own loss and to the disadvantage of the South.

About two-thirds of the number of spindles in the whole South are in the Carolinas and Georgia, pretty evenly distributed between them. Texas, with its 2,000,000 bales a year, has only 77,000 spindles, or less than one-sixth as many as Georgia or either of the Carolinas. Even Alabama, which led the South in energy and enterprise in industrial progress a few years ago, with a splendid climate, with good water-powers and the cheapest coal, has less than one-half as many spindles as either North or South Carolina or Georgia.

In iron-making the South has superior advantages over any other section, and must become the iron-making centre of the United States, but iron ore and coal are also found in other sections. With cotton the South's position is different. No other section of this country produces cotton, and the South's monopoly of the world's cotton trade was never stronger. Cotton manufacturing is therefore one business in which the South has every advantage. This is pre-eminently the South's rightful monopoly. No other large industry so justly belongs to any one section of our country as cotton-spinning and weaving do to the South. This is an industry that will create more wealth for the South than even iron-making. Every Southern State ought to press the development of cotton-mill building with tireless energy.

The relative growth of the consumption of cotton in Northern and Southern mills of late years in bales has been as follows:

Crop Years.	Northern Mills.	Southern Mills.
1893-94 ..	1,601,173	718,515
1892-93 ..	1,687,286	743,348
1891-92 ..	2,190,766	686,080
1890-91 ..	2,047,362	604,661
1889-90 ..	1,790,258	546,894
1888-89 ..	1,785,979	479,781
1887-88 ..	1,804,993	456,090
1886-87 ..	1,710,680	401,452

From 667,754 spindles, representing a capital of \$21,478,000, this industry increased to 1,712,000 spindles, with a capital of \$61,100,000, by 1890. The increase in the last four years has been greater than that of the preceding ten, and when the 500,000 spindles now being added are in operation the South will have just doubled its cotton-mill business in five years.

The growth of cotton manufacturing in the South may be accurately traced by examining the following table, giving the figures for each State. The figures for 1894 include enlargements of mills and new mills under construction at the date of compilation, December 31, 1894:

	June, 1880.			June, 1890.			December, 31, 1894.		
	Mills.	Spindles.	Looms.	Mills.	Spindles.	Looms.	Mills.	Spindles.	Looms.
Alabama.....	16	49,432	861	11	79,234	1,692	30	264,458	4,019
Georgia.....	40	198,656	4,493	53	445,452	10,459	69	592,704	13,522
Kentucky.....	3	9,022	73	5	42,942	677	8	54,088	748
Maryland.....	19	125,706	2,425	15	158,930	2,965	22	176,786	3,520
Mississippi.....	8	18,568	644	9	57,004	1,352	10	62,678	1,894
North Carolina.....	49	92,385	1,790	91	337,786	7,254	158	743,299	14,376
South Carolina.....	14	82,334	1,676	34	332,784	8,546	61	730,590	20,004
Tennessee.....	16	35,736	818	20	97,524	2,043	27	128,066	2,539
Virginia.....	8	44,340	1,322	9	94,294	2,517	13	120,444	3,483
Arkansas.....	2	2,015	28	2	16,610	220	5	16,610	220
Louisiana.....	2	6,090	120	2	66,980	1,726	7	55,132	1,495
Florida.....	1	816	1	1	1,400	1	1	1,400	1
Texas.....	2	2,648	71	1			14	77,514	2,385
Totals.....	180	667,754	14,323	255	1,712,930	39,231	425	3,023,859	68,000

A REVOLUTION IN THE SOUTH.

The Wonderful Advance in Cotton Manufacturing of Late Years.

The Views of a Noted New England Manufacturer, Mr. D. M. Thompson, now President of the Corliss Engine Co.

[For the MANUFACTURERS' RECORD.]

I have been unable to comply with your request for an expression of my views "upon the South's advantages for cotton mills, the character of southern mill help and the general outlook for a steady expansion of this industry" as I would like to do, for the want of time. The urgency of your request, however, compels me to respond briefly.

By way of introduction, I may say that I have devoted thirty-five years in the field of textile manufactures, chiefly cotton. In 1878, during a tour in Europe, I devoted five months exclusively to a careful study of the conditions, methods, processes and systems employed by the cotton spinners, manufacturers and finishers of cotton fabrics in England and on the Continent. On my return I visited the South, where I spent four months in extended travel, the objective point of which was to determine for my own future use the very question (slightly modified) which you now propound to me, seventeen years later. I have thus fully stated an incident in personal experience for the purpose of eliminating, if possible, the necessity of extended argument.

During this period of my observation and study of the physical conditions of the country, I visited all of the principal centres and many inland sections then far removed from lines of railway travel, the tour extending from Richmond to Montgomery and from the coast line to the foothills of the upland country. I availed myself of every opportunity to study the social conditions of the people, meeting representatives of all classes and under circumstances to justify a fair judgment upon a question which deeply interested me.

I found a country abounding in evidences of sad desolation; a people impoverished by the ravages of a civil war, from the effects of which it seemed almost impossible that they could recover during the lives of those who had actively participated in its terrible misfortunes; a vast country, comprising ten States, with more than twelve millions of people, who, while surrounded with great natural resources, were absolutely without the means of utilizing them for the want of capital or financial credit; thousands upon thousands of its business men, formerly in affluence, were confronted by the wreck of fortunes, and, unused to labor, unskilled in the mechanic or industrial arts, were compelled to earn their daily bread by such slender means as then available; a country without manufactures, except in primitive and limited lines; a vast population without means of diversified labor, dependent almost solely upon agricultural pursuits, subject to the competition of four millions of colored people but recently raised from the servitude of slavery into

the freedom of American citizenship. It was indeed a disheartening situation, involving conditions vastly more serious and incomparably greater than the people of the North have ever realized.

The only element in the problem which could then give encouragement and hope for the future was to be found in the fact that the Southern country was rich in the natural resources of her agriculture and the vast stores of her coal, iron mines and other valuable materials necessary to the industrial arts. A just estimate of the Southern situation at the present time cannot be formed, except upon a fair knowledge and appreciation of the physical, social, industrial and financial conditions which existed then—only a brief period of twenty years since. How much of patience, pluck and perseverance has been required to meet and overcome such a situation, none can ever know, except they have been a part of it, or have closely watched, during this transition period, the gradual growth of a genuine business spirit, which is expanding and developing all pursuits and classes of labor, and which has finally lifted the country and its people from poverty into a position of an almost industrial independence.

I recall to mind the early beginnings of some of the present prosperous Southern mills, starting in the smallest way, with the merest pittance in the matter of capital, with but a thousand spindles, more or less, picked up from the scrap-heaps in Pennsylvania, patched, repaired and put in operation by men of limited experience, but whose work would have done credit to some of our best operators and mechanics—machinery of the Danforth type, with cap spindles; many forms of this machinery I had never before seen, ante-dating the then more than twenty years of my experience. I might extend the illustrations at length to include a great variety of conditions, but space forbids. The South was for years a market in which Northern mills found sale for their second-hand machinery. These conditions have now ceased. The Southern mills are buying the very best machinery and equipment which they can procure. The small units of five and ten thousand spindles, are increasing, until mills of twenty to even fifty thousand spindles are being built.

There is a spirit of determined energy in the South to advance the cotton industry. I will cite from many a single case in North Carolina which justly illustrates the point: A community of citizens desired to build a mill to give employment to their labor. They had no capital, and, after fruitless efforts to induce outside capital to come to them, they organized a company with a capital of \$100,000, in shares of \$50 each, and secured subscriptions to this stock from their own people, to be

paid for upon an installment plan of twenty-five cents per week per share. In four years the stock was paid up; a yarn mill of 10,000 spindles was built; the company is now out of debt, and with sufficient capital to conduct its business independently of former selling agents.

After a careful consideration of the various conditions which I then found, I became fully convinced that the South possessed superior advantages for the manufacture of cotton yarns and the coarser goods. The judgment then formed was freely, and in several instances, publicly expressed. I predicted that in twenty years the South would control the manufacture of the coarse goods in all forms of plain, colored and checked fabrics made from yarn less than No. 20. I have since had no occasion to change the opinion then formed. The South had a large surplus of labor without adequate means for its employment, except through the introduction of manufactories. It would involve a considerable expenditure to educate and train this labor to the standard of skill and efficiency possessed by Northern mills, but the conditions existing and the results to be obtained justified the means to be employed.

The saving in the purchase of cotton within districts contiguous to the mills would then amount to six, and in many cases, to eight per cent. upon the total capital value of the plant. In addition to this, there was a valuable home market for a part of its product. As an offset to their less efficient labor, there was a difference of twelve per cent. of working time in favor of the mill—a condition still maintained; while as compared with the fifty-eight hour system in Massachusetts there is still a difference in favor of the South upon a sixty-six hour minimum time of fourteen per cent. The difference in the hours of labor was then sufficient to protect the difference in the efficiency and productive capacity of the mill. The saving due to the less cost of Southern labor thus became a clear saving which would amount to a cent per pound upon the output product of the mill, or, in general terms and under average conditions, ten per cent. of the full capital value of the plant. It is not surprising that Southern mills have been successful with a clear margin of difference, varying according to the character of the product, from twelve to eighteen per cent. These results are based upon parallel conditions as to the grade and character of machinery, but not as to capacity, since there are Southern mills of 20,000 spindles which have shown a larger difference than above cited.

In view of the fact that the difference in the cost of cotton enters so largely as a factor of saving, it was clearly the policy of the Southern mill to spin coarse yarns. The Northern mill then spinning one and one-tenth pounds per spindle of twenty-eight warp yarn in sixty hours is now spinning in the same time one and four tenths per spindle, while the Southern mill in 1880 would spin of No. 12 warp for standard sheeting three and two-tenth pounds per spindle per week of seventy-two hours; a good Southern mill may spin today three and four-tenths pounds of No. 12 yarn in sixty-six hours.

It is clear that while the majority of coarse goods shall be made in the North, then the Northern mill will make the price, and the difference in cost will continue a clear and extra profit to the Southern mill. It is equally clear that when the coarse goods shall be fully controlled in the South then, by the natural laws of trade, the South must fix the price, and the difference over and above a fair return for capital will go to the consumer. The price being then reduced, the country receives a benefit through not only the less cost of the goods, but from the advantage of a largely increased export trade. It is a

natural result, and one much needed to insure the growth and extension of American manufacture beyond the requirements of home consumption.

The Southern mills in the manufacture of coarse goods cannot reasonably expect to hold in perpetuity their present advantage. They will have enjoyed its benefit during the legitimate period necessary to establish their manufactories. Beyond this time, and when the South controls, then the conditions become normal, and by the laws of trade, must cease. This, however, does not detract from the natural advantages of the South. The Southern mills have already begun to diversify their product. Mills are now running and others are being built for finer numbers of yarn and higher grade fabrics. So long as the South has a surplus of native labor, and can hold it in control as at the present time, so long will she wield a vast power.

In the matter of labor I have had occasion to observe it in a recent visit South, and I am impressed with a most marked change. An improvement has occurred during the past twelve years much greater than I had expected to find. The operatives are all native, of exceptionally good appearance, and exhibit a high grade of intelligence and efficiency in the performance of their work. It is a class of help which the best of our Northern mills would gladly employ.

I have great faith in the possibilities of the South. I believe it is and will long continue a profitable field for investment in the manufacture of cotton. I have also an equally strong and abiding faith in the permanency of Northern interests, and in the great future possibilities of the cotton interests in the North. I do not fear the Southern competition, thought by some to be an imminent danger, since the South must eventually meet the question of labor upon lines similar to Northern experience. Northern capital is in no danger of being drawn from its original investments, except so far as shall be necessary to conform to the changed conditions of trade, due to the natural progress of our civilization and the advancement of its industrial arts. The North must per force conform to these conditions.

The mills engaged upon the coarse goods, having long established and valuable trade-marks, must transfer them into the South. The policy adopted by the Massachusetts Mills, of Lowell, is eminently wise. They are now building a mill for the coarse goods at Rome, Ga. The Dwight Manufacturing Co., of Chicopee, Mass., is also building a mill at Gadsden, or Alabama City, for the same purpose. These transferred interests thus early established will have opportunity to reap the special advantages which now exist, but which can continue only a few years longer.

I believe there is an almost illimitable field for the extension of our cotton textile manufacture in this country, the prospective advancement of Japan's interest in the East, notwithstanding. It must, however, be extended into finer numbers of yarn and higher grade fabrics in the North, and, with the opening of new markets through the agency of the South's superior advantages, a vastly larger product of the coarse goods can be made.

I believe that the extension of manufactures in the South should be encouraged by all people. It will establish a bond of interest between New England, the Middle States and the South, which is today much needed, and which will become more marked in the progress of time. It bodes good to the interests of the nation. It will in the near future be recognized in the industrial and political arena of our country as a factor of national importance.

If the prospective condition of the South ten years hence could have existed in 1892 I believe the country would have been spared the experience of the past two years.

Recovery, however, must be moderate. Business is even now assuming an improved condition. Prices of all the products of labor will soon advance to the point of a possible profit. I have faith in the future and in the sterling good sense of the American people. I believe that in the end wise counsel will prevail, and

that even the misfortunes above cited may prove to be the deep gulf through which we were predestined to pass, and beyond which let us trust that there lies a brighter future than we have ever before known. In this hope lies our only comfort for the present.

D. M. THOMPSON.

Providence, R. I.

VIEWS OF A NEW ENGLAND EXPERT.

C. R. Makepeace, a Leading Mill Engineer, Tells About the South's Advantages.

[FOR MANUFACTURERS' RECORD.]

Your letter asking for an expression regarding the advantages in the South for textile industries and the probability of their continued growth in that section, comes at my busy time of year, and I can only reply briefly. Let me call attention to two things: First, that there are in this country today in round numbers 16,000,000 spindles, and, say, 64,000,000 of people. This makes one spindle to four persons, while in Great Britain there are about one a-half spindles to every person, or about five times as many per capita as in the United States. Even Switzerland has one spindle to every one and a-half persons, or, say, two and a-half times as many as this country. Secondly, that this country makes the coarser goods, and it is shown from the fact that the annual output of the spindles of Great Britain was for 1894 about thirty-four pounds per spindle, while it was about eighty pounds per spindle in this country. I mention these two facts at the outset to say that were we to work up the same amount of cotton, but spin it into as fine numbers as does Great Britain, we would have to increase our spindles to about 37,000,000. One would naturally think that the increase in spindles in this country had tended towards the making of the finer counts, but that such is not the case is shown from the fact that the product per spindle in 1884 was 74.62 pounds, and in 1895 it was 80.2 pounds. The greater part of this increase is, of course, due to improvements and increased speed of spindles, but not all. The next ten years will show a great increase in the number of spindles in this country and a corresponding decrease in the average number of yarn spun.

Now, in what section will this increase be? Despite the oft-repeated statement, which is untrue, that the South cannot make the finer numbers, I think a large percentage of it will be in the Southern States, and it is an indisputable fact that the average number of yarn spun in the South has been raised (from the coarser counts to the finer ones) more rapidly than has been the tendency in this direction in New England. And the phenomenal success of some mills erected in the South during the last four years, which are making a finer grade of goods than has been the custom to make in that section, will cause others to change in this respect, and the result will be as above stated.

The advantages possessed at favorable locations situated in nearly all of the cotton-producing States for the economical manufacturing of cotton have been quite ably and sufficiently presented, in print and otherwise, and the subject has been talked and written about until anything appearing touching upon it is read with but little interest. However, no practical man interested in the manufacture of cotton, and many have gone over the ground, has gone South and looked carefully into its advantages without confessing that a great many goods now made in New England could be made cheaper there than North. But the question which vitally interests the Eastern manufacturer is: How long will these advantages hold good? He can see that while some of them are real

and will always exist, others are subject to change and will in time cease to be. Among the former may be classed cheap fuel, equable climate, that a person can live cheaper there than in New England, and that, at present at least, the South is not troubled with labor organizations to any great extent, and what is a thousand times worse, labor agitators. On the other hand, the advantages which the South possesses in the greater number of hours they are allowed to work women and children will in time cease to exist, and I believe that when this question of hours is made a national one, and so settled that the same law applies in the Southern States as in New England, both sections will profit by it.

The fact has been mentioned in the MANUFACTURERS' RECORD by some one that the New England mills and capital would find a hearty welcome South, but not the help, fearing, no doubt, that they would bring their labor organizations with them. There is absolutely no need of anyone getting frightened on this score, as the New England mill operatives will not go South as long as they can find employment here; nor can the South, except in the case of superintendents or overseers, offer them sufficient inducement to move. However, it is only a question of time when the South must face this same problem of labor organizations, and it will come not from without, but from within. It is an institution which is not imported from another country or another State even, but starts and continues to exist because the surrounding conditions are such as will give it a beginning and continue to foster it. There is equally as good material for developing the species known as the "walking delegate and labor agitator" in the South as in New England or the West.

From the haste which each country town in the South has in the last two years appointed committees to go to New England and interview the mill-owners, it would appear as if they were under the impression that these same mill-owners were all anxious to get located there first, but such is not the case, and the fact is there is not one of them who wants to make such a move; nevertheless, there are many of them giving the matter most serious and careful thought, and to my mind, the thing which will appeal to their judgment, as much as anything else, is that it is a very natural thing to do. We are not trying to judge the matter by measuring alone the advantages which the South possesses today, and may be modified or cease to exist in the near future, but by what may be, as near as one can judge, the conditions commercially, industrially, etc., for the next fifty years or more.

Now, as stated, it is nothing more than natural that a large percentage of the increase in spindles in this country during the years to come should be at advantageous points for manufacturing, and situated near the point where the cotton is grown, than that the iron industry of this country should centre somewhere near where all the raw materials for the making of iron are found.

C. R. MAKEPEACE.

Providence, R. I.

A STRONG PRESENTATION.

Latham, Alexander & Co., the Great Cotton Merchants of New York, Tell of the South's Advantages.

NEW YORK, April 10.

Editor Manufacturers' Record:

Your courteous note requesting our views on "Cotton Manufacturing in the South" came duly to hand.

We would be glad to contribute to the make up of your estimable journal under any circumstances, and feel especially privileged in being allowed to do so when the issue in view is, as we understand, to be devoted in the main to the material development and manufacturing industries of the South.

In our opinion the future greatness and prosperity of the South will come through a comparative subordination of its agricultural interests to the greater development of its mineral resources and the increase of its manufacturing enterprises.

Planting was the *sine qua non* to the Southern people in ante-bellum days, because of the then prevailing conditions. Slave labor was inseparably joined to cotton-growing, and the universal recognition of that fact did more than anything else to make the South an agricultural rather than a mining or manufacturing section.

The profitableness, too, of cotton-planting in those days induced the one-crop idea, which did the South, in the long run, more harm than good. It circumscribed the energies of the people and blinded them to their possibilities in other directions. It left the South's incalculable mineral wealth a secret in the keeping of the hills, and made manufacturing enterprises almost as rare as if the law of the land had been against them. But things changed radically when the war was over, and the Southern people, be it said to their credit, were quick to adjust themselves to the requirements of the new era.

The marvelous material development, the vast growth of the mining interest and the wide spread of all sorts of manufacturing throughout the South during the last twenty years are well-nigh incredible.

In one sense it is difficult to discuss cotton manufacture in the South. The advantages attending it are glaringly self-evident. There is no room for argument. It is not a proposition requiring proof. It is not a theory awaiting experiment. It is not a matter of doubtful expediency. It is not a venture of questionable profit.

The manufacture of cotton in the South has indisputable claim to all the advantages that are inseparable from "the eternal fitness of things."

The climate is the best in the world for the business. Water-power is there in inexhaustible quantity, free as air, or at minimum cost even in exceptionally desirable localities. Labor is abundant at reasonable wages, and has thus far been less distracted and corrupted by trades-union disturbances than in any other section of the country. Living expenses are light, and consequently the daily earnings of the factory operatives are more than sufficient to keep them in comfort and contentment. And finally, overtopping and crowning all other advantages is the one inestimable and unalterable fact, the cotton itself is there.

No other section of this Union can ever hope to stand on equal terms with the South in the manufacture of cotton until transportation of raw material ceases to be of consequence in the cost of the manufactured product.

To dispute the advantages which the South has over any other section of the Union in the manufacture of cotton would be like contending that the mammoth flour mills of the West should be built farther away from the grainfields, or that crude

ore should be hauled a thousand miles or more for treatment rather than have smelting works adjacent to the mine.

What more can be said in support of the South's superior claims in this matter than that her climate is peculiarly favorable, labor is tractable and homogeneous, and water-power is to all intents and purposes free and inexhaustible.

Cotton manufacture is an industry that belongs to the South, just as essentially and incontestably as ice-cutting belongs to the region where the lakes and rivers freeze deepest. LATHAM, ALEXANDER & CO.

COTTON—A MARVELLOUS PRODUCT

The Diversity of Interests Based on Cotton—Opportunities for Improvements.

By C. B. Warrand, of Savannah.

Early in the seventies, when cotton was selling for about twenty cents per pound, many doubts were expressed then if the cotton planter in the United States ever could produce cotton for fifteen cents per pound, yet a 10,000,000-bale crop has been raised and sold at five cents per pound; without any profit it is true, yet no great financial disaster has ensued.

The main factors that have rendered within the last score of years the production of a five-cent cotton possible are: Raising food supplies at home, a more perfect system of cultivation, the extensive use of commercial fertilizers, the parity of gold and greenbacks and the utilization of the cottonseed.

Pessimists are now discussing the possibility of a three-cent cotton, if another 10,000,000 bale cotton crop should be raised in the near future.

The only margin left for still lowering the cost of production of cotton can only be found in completely utilizing all the by-products of the cotton plant.

An enumeration of the various wastes as they now exist, compared with a theoretical perfection, will show that this margin amounts to many millions of dollars annually, which can and eventually will be recovered to a great extent with better methods and improved machinery, which are bound to come into existence sooner or later.

The South plants in round numbers 20,000,000 acres in cotton; an acre produces from 1000 to 5000 pounds of cotton stalks, which are now not alone valueless, but which must be chopped down, burned or buried in the furrows at some expense. Dry cotton stalks gathered after the cotton has been picked are covered with a bark which contains a very strong fibre well adapted for cotton-bagging or burlaps. Cotton stalks have from 5 to 6 per cent. of this fibre, so that it is possible to produce from fifty to 250 pounds of such fibre per acre. Its value ought to be about \$40 per ton, or from \$2 to \$10 per acre.

The cost of gathering, baling, shipping and freighting the dry stalks to centrally-located works would leave little or no margin for profit; hence the stalks would have to be decorticated, either in the field or near by, so as to crudely concentrate the fibre. With proper machinery there is no doubt that this can be done, and the cotton planters could realize from this source all the way from \$10,000,000 to \$100,000,000 annually, instead of sending out annually some \$8,000,000 or \$10,000,000 for cotton-bagging. With an abundance of cotton stalk and palmetto fibre the South offers unexceptionable advantages for the establishment of bagging and burlap mills.

The ginning of cotton is now much improved, as a rule; still an immense amount of a valuable short lint remains on upland or green cottonseed after it is ginned. The oil mills decorticate the seed, and this lint remains on the hulls, which are either

burned or fed to stock. In either case the lint is totally lost, as the lint consists of cellulose, which leaves no mineral ash if burned.

Lint cellulose is absolutely devoid of nourishment, as it is entirely indigestible, consequently utterly worthless for cattle food.

Cottonseed-oil mills run the seed through linters, and recover from twenty to twenty-five pounds of cotton lint from a ton of seed, or about 1 per cent.; yet the upland seed, if it is completely denuded from fibre, is capable of yielding 10 or 11 per cent. of a short lint, or from 200 to 225 pounds per ton.

This short lint is valuable, and ought to be worth from one and one-half to two cents per pound, as it would find numerous technical employments, principally in the manufacture of paper, paper boards, papier mache, felt, upholstery and cellulose. Nitro cellulose, or gun cotton, could also be made from it, which would be cheaper and safer than dynamite for blasting purposes.

With the advent of a machine that will completely clean green cottonseed, from \$3 to \$4 worth of lint per ton could be saved, amounting on an annual production of 5,000,000 tons of seed to \$15,000,000 or \$20,000,000.

Polished upland cottonseed, if planted, germinates very rapidly, especially if planted in dry weather; it will be out of the ground one or two weeks earlier than lint-covered seed, thereby adding one or two weeks to the life of a cotton plant, which is often of importance as regards the maturing of a top crop of cotton.

Polished upland seed occupies much less space than crude seed, hence it can be transported and stored at less expense; it is not liable to heat, and can therefore be exported in the same manner as Sea Island or black cottonseed, which is to-day quoted as high as wheat in England.

Polished seed can be crushed without decortivating the same. Oilcake from undecorticated seed only contains 5 to 6 per cent. of oil.

Probably some 3,000,000 tons of cottonseed will be milled this season, producing from 110,000 to 125,000 tons of cake. The oil remaining in decorticated cake will average 15 per cent. in the United States; thus practically forty gallons of oil are wasted to each ton of cake produced. This oil is worth say twenty cents per gallon loose, or a waste of \$800,000 to \$1,000,000 is the result of the present faulty system of oil extraction.

The oil in the cake has no value whatever as a fertilizer. For feeding purposes 2½ or 3 per cent. of oil is desirable; if the cake contains any larger amount the feeding of oilcake to stock has to be curtailed, or indigestion or surfeit are bound to ensue. The large amount of oil contained in American cake limits the demand and employment of the same to a very large extent, as it can only be fed together with other food to a limited extent.

Decorticated cake contains about 10 per cent. of moisture. Of the remaining 90 per cent., fully one-half consists of starch and cellulose. By the present method of cooking kernel-meal before pressing, this large amount of starch and cellulose is rendered valueless for any purpose, except as a stock food, as starch and cellulose have no value as a fertilizer.

A ton of cottonseed-oil cake contains 900 pounds of starch and cellulose, which could be converted into dextrin, dextrose or grape sugar, and which can be fermented and turned into alcohol. If the meal was not cooked 900 pounds of starch and cellulose would yield about 800 pounds of sugar identically the same as that now produced from corn starch, or if fermented and distilled it would yield 400 pounds, or fifty gallons of absolute alcohol, or 100 gallons of high wines could be produced.

If all the oil, starch and cellulose were removed from cottonseed the remaining protein matter could be concentrated and dried, and such a product would be about as valuable as dried blood, and ought to be worth from two to two and a-quarter cents per pound.

A ton of cottonseed contains about 20 per cent. of such protein matter, or about 400 pounds, its chief value being the nitrogen it contains; as stated, oil and starch have no value as fertilizers.

Theoretically it is possible to make a ton of upland cottonseed yield:

25 pounds No. 1 lint worth 2½ cents per pound.....	\$ 62½
200 pounds No. 2 lint, recoverable by polishing the seed, worth 1½ cents per pound.....	3 00
20 per cent. of starch and cellulose, worth by approximating their value to corn or rye about 1½ cts. per pound, on 400 pounds.....	6 00
20 per cent. of protein matter, 400 lbs. at 2 cents.....	8 00
50 gallons oil worth, loose, at 20 cts....	10 00

The theoretical possible value of a ton of seed is..... \$27 62½

The average yield per ton of seed is:

25 pounds No. 1 lint at 2½ cts. per lb. \$ 62½
35 gallons oil (loose) at 20 cents..... 7 00
750 pounds cake at 15 cents..... 5 37½
1050 lbs. hulls worth \$2 per ton..... 1 05

Total value..... \$14 05
Leaving a margin for possible improvement per ton of..... \$13 57½

Showing that by the present system a little more than one-half of the theoretical value of the seed is recovered.

Another drawback the present method of cooking the seed meal before pressing has, is that the crude oil contains some 5 or 6 per cent. of gummy matter. The oil must be kept for seven or eight days before this gummy matter is deposited; even then the oil has to be sold to refiners quickly, as it will not keep more than three or four weeks without deteriorating or spoiling. Cottonseed oil is now mainly used to manufacture compound lard, butterine, cotton-lene, etc. The trade is slow to recognize its value as a paint oil. Cottonseed oil deprived of its palmitin resembles linseed oil very much, and there is no reason why properly treated and boiled cottonseed oil should not be used for the same purposes as linseed oil is now.

By a very simple process and with an apparatus costing comparatively but very little money, cottonseed oil can be made into a boiled oil or varnish or into vegetable rubber. Neither process nor apparatus are patentable, and, although the fact is well known to a number of oil experts, they see monetary advantages to be gained; consequently but little or nothing is said about it. An Ohio firm turns out many thousands of barrels of an imitation castor oil made from cottonseed oil. This oil resembles castor oil very much, but can be easily detected by its odor. For any except medicinal purposes it answers as well. A vaseline is also made from cottonseed oil which is perfectly tasteless and odorless. In the course of time new machinery and new methods will render all the by-products of the cotton plant available, and it is quite probable that eventually these by-products will become equal in value to the cotton itself, so that even a three-cent cotton would not mean ruin.

The measure of a nation's civilization is its consumption of cotton goods. Advancing civilization in Asia, in Africa, in South America and in Mexico means broader markets for the South's cotton. We clothe the world, and the world's increasing demand for clothes is creating an ever-growing need for the South's cotton.

ILLUSTRATIONS OF COTTON MILL PROFITS.

What Southern Bankers Say About Cotton Manufacturing.

SURE AVENUE TO WEALTH.

CITIZENS' BANK,
 RUSSELLVILLE, N. C., May 7. }

Answering your inquiry, there is only one cotton mill in our town, and, judging from the extensive improvements in buildings and machinery which the owners are making upon their plant, it is evident that they have great confidence in their enterprise. Cotton factories are regarded here as one of the surest avenues to wealth and profit, and I call to mind none that have not succeeded, except a very few, whose failure has been, no doubt, justly ascribed to indifferent management. Successful tobacco towns like this can do much to advance their development and maintain their thrift by diversifying their manufacturing.

H. R. SCOTT, President.

PROSPEROUS COTTON MILLS.

FIRST NATIONAL BANK OF ROME,
 ROME, GA., May 16. }

The cotton-mill business seems to be the business of the South in this decade, and it is to be hoped that cotton will continue to be king after its manufacture into goods that will be sold the world over. It would look as if that situation of affairs is now permanently with us.

The Trion Cotton Mills in an adjoining county to this has always paid handsomely and is doing now the most profitable business of its existence.

The Rome Cotton Mills are doing extraordinarily well. Rome is exceptionally a favorable point for the location of the cotton mills on account of the surrounding cotton-fields and railroad and river communication. Recently a branch of the Massachusetts Cotton Mills of Lowell has been located at Rome.

The business of Rome shows no results of the hard times existing since 1890. Our streets are filled with busy, active people. A diversified manufacturing interest has kept our mechanics and laborers constantly employed, and with one exception all our manufactures are running today.

JOHN H. REYNOLDS.

NO CHARACTER OF INVESTMENT SAFER.

NATIONAL BANK OF AUGUSTA,
 AUGUSTA, GA., May 16. }

Cotton manufacturing in the South has always proven satisfactory as a paying industry, and from the establishment of the first cotton factory to the present time, the results have not only proven the wisdom of investors, but have demonstrated the inevitable conclusion that no character of investment is safer, and very few, if any, more profitable.

Augusta is the "Lowell" of the South, and her twelve factories with 4858 looms and a half million spindles never stop except for repairs, or for the replacement of old with new machinery.

Two of the three companies have a capital of \$1,000,000; two \$700,000 each; two \$500,000 each, while the balance have capital ranging down to \$100,000, and none of them earned less than 6 per cent. during the past depression.

The "Enterprise Manufacturing Company" under the efficient and skillful management of President James Paul Verdery, demonstrates perhaps the most remarkable results. The company has now 33,000 spindles and 928 looms, capitalized at \$500,000, and its only debt is its first mortgage bonds of \$250,000. It has paid off in full within the past eight years a floating debt of nearly \$300,000, besides increasing its plant from 22,000 spindles and 600 looms to 33,000 spindles and 928 looms without calling on the stockholders for a dollar, the cost of enlargement having been paid entirely out of its earnings. It has now a surplus of \$100,000

Eight years ago the stock was freely offered at \$20 per share, but to-day it will bring par. For the past three years it has paid regularly semi-annual dividends of 3 per cent. President Verdery's management of this property has been so efficient and the results so gratifying that the board of directors have recently taken steps to double the capacity of the mill at an early day. L. C. HAYNE, President.

PRACTICAL RESULTS OF COTTON MANUFACTURING IN SOUTH CAROLINA.

BANK OF DARLINGTON,
 DARLINGTON, S. C., May 9. }

The South is the natural home of cotton-manufacturing. For the same reasons that the lumber mills are in the forest, the foundry at the mines, the grain mills in the West, the cotton mills belong to the South, and it is but natural that the cotton mills of the South are the most profitable industry in this country today. The production of cotton is as necessary to the human race as the production of food, and the product of the cotton mill is an article which will be in demand for all time to come.

The advantage which a manufacturing country offers to the surrounding agriculturalists is just what the South now offers to the manufacturer. In every country there are agriculturalists, mechanics and artisans. The South has been proportionably too largely agricultural, and that portion of its population whose avocations are in other directions is anxiously awaiting the capitalist and the manufacturer. The labor of this section has been tried and found to be efficient, capable and energetic in every branch of industrial work, and one notable fact is that those who have turned their attention to manufacturing have adhered to it closely.

The South is almost a new field, the resources of which have just begun to be developed, and it now offers every advantage which any country ever offered for foreign investments. Only one-ninth of the cotton which it produces is manufactured here, and there will be no cessation of new cotton mills in this section until this proportion is increased over and over again.

The Darlington Manufacturing Co. purchased last season 5000 bales of cotton at an entire cost of five and one quarter cents per pound for an average of strict middling cotton, including buying, handling and storing in its warehouse. Besides what this company bought, there are marketed and shipped within less than a radius of forty miles of this place 120,000 bales of cotton.

This company, which has saved freights, commissions and various other expenses on its raw material, will compete with its products in the same markets with the mills of New England, for the same transportation facilities by which we export our raw cotton applies to our goods. The writer subscribed to the capital stock of a cotton mill in this State, the stock of which is worth on the market \$140 per share today, besides having paid an average of 10 per cent. per annum in dividends. The fact that the cost of living is so much less in the South than it is in the North is made evident by the price paid to our various kinds of labor. The South is comparatively free from labor organization, labor troubles and competition.

The resources of the South, apart from cotton manufacturing, are almost untouched. With cheap land and building material, with magnificent mill sites, with cheap coal, wood, labor and food, with a mild and healthy climate, and with an honest, generous, hospitable people, the capitalist need have no fear of not meeting with success in intelligently-directed in-

vestments, or of want of sympathy or lack of co operation on the part of the South to make his efforts successful. Those who come first and take advantage of the opportunities offered by this section and grow up with its growth will reap twice—directly and indirectly.

BRIGHT WILLIAMSON, President.

PROSPERITY IN MISSISSIPPI.

THE FIRST STATE BANK,
 COLUMBUS, MISS., May 9. }

The Tombigbee Cotton Mill of this place makes sheeting, drills, osnaburgs and rope. Though located among the business houses and away from the railroads, without sidings, it has demonstrated the proposition of profit. It commenced operation in 1889 with an investment of \$140,000, of which \$40,000 was put in the building, a four-story brick; the balance half filled it with machinery, leaving a small working capital. The policy was to put the earnings in machinery. That has been doubled, including the power. The working capital is over \$50,000, and the total value today, deducting 20 per cent. for wear and tear, is over \$250,000. It paid 5 per cent. dividend in January out of last year's earnings as a starter. It uses "strict middling" cotton, has on hand ten months' supply, which cost less than five cents per pound at its doors, is running on full time and has contracts at satisfactory prices for six months' output. The company owns its houses, water supply, electric-light plant, and keeps no store; pays cash for material and wages, runs 310 days in the year and never had a strike. The president, now eighty years old, a successful business man, without experience, simply applied old-time business rules and succeeded. The mill is fostered and favored by our people and is the pride of the place. Others will be welcomed, enjoy equal privileges, and under its experience make marked improvements. C. A. JOHNSTON, President.

DIVIDENDS AND SURPLUS.

CITY NATIONAL BANK,
 GRIFFIN, GA., May 7. }

With the natural advantages we possess our own people thought they saw profits in manufacturing, and in 1883 organized the Griffin Manufacturing Co., which went into operation in 1884, and in three years had built up a good trade. In 1887, having accumulated a handsome profit, it paid a 6 per cent. dividend; then, in 1888, it paid 10 per cent. dividend, and has steadily paid 10 per cent. annual dividends ever since, and still carries a surplus of over 80 per cent. of the capital. In 1889 the Kincaid mill was organized, was put in operation, and in 1891 paid 6 per cent.; in 1892, 7 per cent.; in 1893, 8 per cent.; in 1894, 10 per cent., and in 1895 has paid 10 per cent. The management speaks confidently of being able to maintain these results, and still carries a good surplus account. These mills are owned by our home people, and we feel a pardonable pride in their success. The officers and stockholders in both mills are mainly made up of the same people. Mr. W. J. Kincaid is president, and Mr. Jas. M. Brawner is secretary and treasurer of both companies, and these gentlemen would no doubt take pleasure in answering inquiries from those who wish to invest in the cotton-mill business.

J. G. RHEA, Cashier.

W. C. & L. LANIER,
 BANKERS AND MANUFACTURERS,
 WEST POINT, GA., May 11. }

Your favor of 2d inst., asking us for "some detailed facts as to profitability of any particular company with which you are personally acquainted," is received. For a quarter of a century we have been closely identified with cotton manufacturing here, and the record is very satisfactory to us. We know of no unsuccessful cotton mill under proper organization and legitimate management. This is a cotton-growing section, and we enjoy the advantages

of working cotton from the producers' wagons, easily controlled water-power and cheap fuel—all dividend-earners. But we have another favorable element developing as we progress to finer counts, which we are doing with success, and that is our labor. We know of none more respectable, brighter or more easily trained than the boys and girls from the farms around us. It's wonderful to see how quickly they take to the work. We now have at one of our mills a family of four workers earning \$70 a month, girls and boys who ninety days ago had never seen a cotton mill. They came to us almost in a destitute condition from a farm nearby.

The capital stock of our mills now aggregates over \$1,000,000, over 5000 people, directly and indirectly, being supported by them, furnishing a market for 25,000 bales of cotton, paying out on pay-rolls annually about \$250,000, and about \$100,000 annually to shareholders, besides laying aside a surplus for further extension. And we predict as favorable a record for any well-organized cotton mills located in a healthy portion of the cotton-growing section of the South, under proper management.

W. C. & L. LANIER.

PAYING GOOD DIVIDENDS.

FIRST NATIONAL BANK,
 LYNCHBURG, VA., May 6. }

The cotton mill located here is doing splendidly, and its credit is A1. It began last January to pay dividends, paying 4 per cent. semi-annual dividend on preferred stock, 3 per cent. semi-annual dividend on common stock. It has already earned more than sufficient to pay its July next dividend. The capital stock is about \$380,000. Of this, \$80,000 is preferred and \$300,000 common stock.

The policy of the management is very conservative, and prefer paying moderate dividends and increasing the surplus fund each year. The surplus, I think, stands now at about \$30,000. This will be augmented this year by considerable additions.

I know of no better locality for cotton factories than here; all facilities for shipping. There are three trunk railroad lines, the Norfolk & Western, Southern and Chesapeake & Ohio converging here.

The goods manufactured by the cotton mill here stand high in the markets, and orders are pressing to be filled at this time.

R. H. T. ADAMS, President.

COTTON MILLS FLOURISHING.

CENTRAL GEORGIA BANK,
 MACON, GA., May 6. }

The cotton mills located here and in our immediate section are all reported as flourishing, and have been built up in the last few years from small beginnings. The Bibb Manufacturing Co. (two mills), the Manchester Manufacturing Co. and the Macon Knitting Mills comprise this branch of industry in our city. Their reports are not published, but dividends are said to be quite satisfactory and stock held at a considerable premium. The result of the inquiries by various committees of Northern manufacturers and by legislative and government commissions seem to have established the fact that the general average of mill earnings at the South compare favorably with that of New England.

T. O. CHESTNEY, Cashier.

If New England can import its cotton, import its coal, import the lumber for its mills and import the food for its people and make money out of cotton manufacturing as it has been doing, how much more could its capitalists earn by putting their money in Southern mills.

A COMPARISON OF CLIMATES.

Range of Temperature and Humidity North and South Considered in Their Bearing Upon Cotton Manufacturing.

THE VIEWS OF A NEW ENGLAND MAN.

It is a well-considered fact among manufacturers of cotton yarns that an even temperature and moist atmosphere are very conducive to the developing of strong, even yarns. Especially is this the case where fine counts of yarn are to be spun. It is well known that the climate of England is peculiarly adapted for the spinning of fine counts of yarns by reason of the soft, humid atmosphere.

It is a well-known fact that the temperature and absolute humidity is much even in Lancashire, England, than in New England. There is found in Lancashire a set of conditions of temperature, prevailing winds and geographical surroundings which have always seemed quite impossible to duplicate. The most frequent wind is from the southwest, and that, blowing directly from off the gulf stream, adds constant moisture to the atmosphere.

Now, the object of the writer in preparing this paper is to present to the manufacturers of the Southern States reasons why they should feel justified in building mills and placing machinery especially adapted for the manufacture of a finer grade of goods than has heretofore been made. The writer has quite frequently heard the remark that the great manufacturing centres of New England would have to prepare for the production of a finer grade of goods, while the Southern States would continue to manufacture the heavier grade. Now, it seems to me, after making a practical study of the subject, that the New England manufacturers had better continue the production of coarse goods, and let the South go more extensively into a finer grade of yarns. The claim that I make for this proposition is based on the fact that the climate of the Southern States is very much more closely allied to that of Lancashire than that of any of the New England States. In order to fully understand the subject under discussion I will present carefully-prepared tables of barometric pressures of air, with the temperatures and absolute humidity of the atmosphere of the States of Alabama and Massachusetts for the year 1893. The barometer readings were observed every morning at 8 A. M.; the readings for the temperature and water vapor in grains were taken twice a day, morning and evening. I will first consider the pressure of air, so that a comparison can be made between the two States. The highest, lowest and mean barometer pressures of air will be given for each month:

ALABAMA.	Highest.	Lowest.	Mean.
January.....	30.51	29.70	30.13
February.....	30.51	29.94	30.20
March.....	30.50	29.88	30.15
April.....	30.24	29.67	30.09
May.....	30.31	29.78	30.00
June.....	30.22	29.76	30.02
July.....	30.18	29.98	30.11
August.....	30.08	29.66	29.98
September.....	30.21	29.75	30.04
October.....	30.40	29.62	30.09
November.....	30.51	29.73	30.16
December.....	30.54	29.76	30.25

MASSACHUSETTS.	Highest.	Lowest.	Mean.
January.....	30.60	28.99	29.96
February.....	30.74	28.86	30.05
March.....	30.54	29.49	30.01
April.....	30.60	29.79	30.08
May.....	30.30	29.38	29.90
June.....	30.30	29.76	30.04
July.....	30.26	29.67	29.95
August.....	30.22	29.62	29.94
September.....	30.43	29.75	30.04
October.....	30.60	29.45	30.09
November.....	30.64	29.52	30.08
December.....	30.82	29.46	30.05

We find from the readings of these tables that the extreme pressure of air is much more in Massachusetts than Alabama. It will also be noticed that while the mean pressure of air from month to month runs quite uniform, still, when we follow the extremes from highest to lowest barometer

readings, we find that the variation is considerable. Now this is the point that I desire to call attention to. Sudden atmospheric changes in the New England States is what interferes with the uniform running of the carding and spinning department. As I shall have occasion to make mention of this point in my next paper, I will pass to notice the causes of variations in the pressure of air. The mean pressure of air in the New England, Middle and Southern States is very close to thirty inches, but, as will be seen by the following table of readings for the month of February in the States of Alabama and Massachusetts, there is quite a difference in the range of pressure of air. This, as will be explained later on, has quite a bearing on the manipulation of cotton fibres. I will now give the daily readings of barometer for one month:

ALABAMA.	Highest.	Lowest.	Mean.
1st.....	30.22	29.14	30.14
2d.....	30.25	29.10	30.12
3d.....	30.33	29.17	30.20
4th.....	30.51	29.18	30.17
5th.....	30.43	29.19	30.17
6th.....	30.31	29.20	29.99
7th.....	30.30	29.21	29.90
8th.....	30.64	29.22	30.08
9th.....	30.40	29.23	30.06
10th.....	30.11	29.24	30.02
11th.....	30.08	29.25	29.94
12th.....	30.16	29.26	30.16
13th.....	30.19	29.27	29.96
14th.....	30.25	29.28	30.00

MASSACHUSETTS.	Highest.	Lowest.	Mean.
1st.....	30.46	29.86	30.14
2d.....	30.28	29.97	30.12
3d.....	30.26	29.37	30.37
4th.....	30.30	29.63	30.03
5th.....	30.74	29.52	30.12
6th.....	30.52	29.86	30.19
7th.....	29.79	29.98	29.98
8th.....	30.64	29.39	29.74
9th.....	30.69	29.77	29.88
10th.....	30.03	29.88	29.91
11th.....	30.42	29.91	29.91
12th.....	30.49	29.25	30.25
13th.....	30.27	29.32	30.32

In looking over these daily readings of pressures of air it will be noticed that the highest and lowest in Alabama was 30.64, 29.90, difference 74-100 of an inch; highest and lowest in Massachusetts 30.74, 28.86, difference 1 88-100. In other words, we find a difference of 1 14-100 inches in the pressure of air between New England and the Southern States.

Now, what is the cause of such variations, for it will be noticed that in Massachusetts there is a constant fluctuation of pressures of air? In looking up the component parts of atmosphere, it is ascertained that atmosphere is the gaseous envelope of the earth, about forty miles in depth. The atmosphere consists chiefly of a mixture of two gases, oxygen and nitrogen, in the proportion by weight of 23.2 per cent. of oxygen and 76.7 per cent. of nitrogen, to which may be added about 0.1 per cent. of carbonic acid and greatly varying quantities of watery vapor.

Now, when we take into consideration the fact that the earth is passing through varying atmospheres at the rate of fourteen miles per second, we can very readily see why it is that the pressure of air is constantly varying. I find, in looking over the weather record, where the pressure of atmosphere forced the column of mercury in barometer up to 30.74, the wind was northwest, very cold, with the temperature at 3° below zero, water vapor 785-1000 grain. Now this has quite a bearing on the working of cotton fibres. A high pressure of air always brings a dry atmosphere, while a low pressure of air results in a damp atmosphere. The result of these two extremes is what affects the running of cotton during the several processes of manipulating through the machines, as will be explained in my next paper. I will now present the temperatures and absolute humidity in grains.

ALABAMA.	Highest.	Lowest.	Mean.
January.....	72	17	42.7
February.....	70	34	54.8
March.....	84	24	56
April.....	88	44	69
May.....	93	51	72.1
June.....	94	62	78.6
July.....	90	68	83.5
August.....	94	64	80.4
September.....	96	58	78.4
October.....	86	35	64.8
November.....	78	27	55.6
December.....	72	24	51.9

MASSACHUSETTS.	Highest.	Lowest.	Mean.
January.....	40	9	17.5
February.....	55.5	5	39
March.....	54	8	31
April.....	68	20	43.2
May.....	94.5	34	58
June.....	96	48	67.2
July.....	95	51	72.5
August.....	97	49	71
September.....	82	39	60
October.....	82	28	55.3
November.....	67	14	41.1
December.....	58	10	22.2

WATER VAPOR IN GRAINS PER CUBIC FOOT OF AIR.

ALABAMA.	Highest.	Lowest.	Mean.
January.....	5.38	0.68	2.12
February.....	7.02	1.35	3.43
March.....	6.57	0.80	3.10
April.....	6.79	1.96	4.75
May.....	8.25	3.42	5.78
June.....	9.08	5.02	7.18
July.....	9.67	6.15	8.18
August.....	9.67	5.20	8.33
September.....	8.52	5.02	5.91
October.....	9.08	1.67	4.55
November.....	5.95	1.29	3.54
December.....	6.36	1.41	3.30

MASSACHUSETTS.	Highest.	Lowest.	Mean.
January.....	2.17	0.69	1.05
February.....	3.01	0.84	1.32
March.....	3.02	0.92	1.66
April.....	3.73	1.49	2.08
May.....	4.45	2.75	3.58
June.....	7.48	4.03	5.54
July.....	7.57	4.24	5.69
August.....	8.24	4.30	6.16
September.....	6.35	2.85	4.13
October.....	6.38	1.69	3.50
November.....	3.87	1.02	2.30
December.....	2.91	0.66	1.57

It will be observed that the lowest temperature in Alabama was 17° above zero, while that of Massachusetts was 10° below zero.

It is very evident that with the competition of manufacturers of cotton goods a scientific study of the best methods of treating cotton fibres in the several processes from field to the finished goods is very essential. When I speak of giving a scientific study to cotton fibres and best methods of handling them, I mean that a most thorough and practical study should be given to every detail pertaining to the treatment of so delicate a substance.

The time has come when something more will be required of the management of mills than a mere starting and running in a perfunctory way day in and day out. The trade now demands a highly-finished grade of goods. This requires more than an ordinary knowledge that has been acquired in three or four years' service in a cardroom or spinning-room, with no desire to increase that knowledge. Each department of a cotton mill must be conducted in a scientific manner. This will be just as essential in a Southern mill as in any Northern mill. The climate and locality of a Southern mill will no doubt obviate many of the objections found in our Northern mills. Nevertheless, good practical men will be sought after to run our Southern mills.

In the preceding paragraphs I have presented a table of comparison on the temperatures and pressures of air between the States of Alabama and Massachusetts for the year 1893. I will now treat the subject of atmospheric changes and their immediate effect while passing through the several processes, especially that of the carding and spinning departments.

It is a well-known fact that a careful treatment of the cotton fibres in the processes of mixing, picking and carding is very essential to the success of the mill. Another very important factor is the care exercised in controlling the work during sudden atmospheric changes.

In the first place, I will define what I term atmospheric changes. In my tables of pressures of air it was found that there

was a wide variation between the two States in the month of February. It has been ascertained that cotton fibres can be manipulated much better in a climate where there are but slight changes in the pressure of air than in a climate where there are excessive changes.

Now this is the reason why I call special attention to this point. When the barometer begins to rise there is positive evidence that there is to be a loss of moisture, and a loss of moisture means an increase of electricity in the carding and spinning rooms. From very careful observations for several years I find that work in a cardroom can be run to better advantage with from five and a-half to six grains of water vapor per cubic foot than at any other condition.

Now then let us see what the result will be when a high barometer prevails with a dry northwest wind blowing. Instead of the hair polymer indicating six grains of water vapor per cubic foot in the cardroom, it will show conclusively that there is only four and a-half or five grains water vapor in a cubic foot of air. Dry air and electricity now takes the place of a moist atmosphere. Electricity in a cotton cardroom sufficient to cause expansion of cotton fibres will seriously depreciate the strength of yarn as well as its general appearance. In fact, very much of the weak and tender yarn spun can be traced directly to the cardroom where dry air and electricity have prevailed. This state of things will be found at times in Southern mills, but nothing compared to our Northern mills.

It may be of special interest to Southern manufacturers to know, from a practical standpoint, what effect atmospheric changes will have upon cotton fibres in the first processes of manipulating. It is quite a generally-accepted theory that the cause of heavy and light yarns is the effect of dry and moist atmospheres. Now this, to a certain extent, is correct, but right here I want to say that there are other causes that enter into the formation of light and heavy grades of yarn.

As this point is one of considerable value, I will at this time present carefully-prepared estimates of the loss and gain in cotton fibres during atmospheric changes. These observations were conducted in a cardroom with a free circulation of air. By experiments and observations my endeavor has been to obtain the most perfect condition of samples of cotton during extreme atmospheric changes. Samples of cotton were weighed and carefully watched during atmospheric changes, the several grades being protected from dust, lint, etc. I will give the loss and gain in three separate grades, with the amount of water vapor in grains per cubic foot of air:

1. Egyptian Cotton—Weight of samples, 112 grains; highest weight in samples, 115 grains; gain in moisture, 2.7 per cent.; amount of water vapor in cubic foot of air, 6.361 grains; lowest weight of samples, 111.5 grains; loss in moisture, .4 of 1 per cent.; amount of water vapor in cubic foot of air, 4.537 grains; 40 per cent. loss and gain in moisture; 31 per cent. loss and gain of moisture in cotton.

2. Peeler Cotton—Weight of sample, 112 grains; highest weight of samples, 114.5 grains; gain in moisture, 2.2 per cent.; amount of water vapor in cubic foot of air, 6.154 grains; lowest weight of samples, 111.8 grains; loss in moisture, .2 of 1 per cent.; amount of water vapor in cubic foot of air, 4.537 grains; 33 per cent. loss and gain in moisture; 2.4 per cent. loss and gain in moisture in cotton fibres.

3. Good Ordinary—Weight of samples, 112 grains; highest weight of samples, 113 grains; gain in moisture, .9 of 1 per cent.; amount of water vapor in cubic foot of air, 6.154 grains; lowest weight of samples, 110.7 grains; loss in moisture, 1.1 per cent.; amount of water vapor in cubic foot

of air, 4.234 grains; 45 per cent. loss and gain in moisture; 2 per cent. loss and gain of moisture in cotton fibres.

We find that the largest loss and gain in atmospheric changes was 40 per cent., while the loss and gain in moisture from samples of cotton was 3.1 per cent. This was from the Egyptian sample. The loss and gain of moisture from the sample of Peeler cotton was 2.4 per cent.; loss and gain of moisture from atmospheric changes 33 per cent., while the good ordinary only showed a loss and gain of moisture of 2 per cent. In this test the loss and gain from atmospheric changes was 45 per cent.

Allowing, then, that there is a loss and gain of 3.1 per cent. of moisture in cotton, what effect would this have on No. 28.5 yarn? $3.1 \div 2 = 1.55 - 28.5 = 28.06$; $3.1 \div 2 = 1.55 + 28.5 = 28.94$. In other words, we find that a loss and gain of 3.1 per cent. shows a variation of .88 of a number in the yarn. I have made my estimate from the highest per cent. of loss and gain. If we take good ordinary cotton, the variation in the yarn spun would not exceed .50 of a number.

This I am quite sure brings us to a very important point in the discussion, and that is, the effect on cotton fibres during atmospheric changes, such as frequently occurs in our New England climate. It is a well-known fact that dry air produces

electricity, and electricity as it enters cotton fibres causes an expansion. This increases the friction on the trumpet of the railway head, and the immediate result is a light grade of drawing quite in excess from the loss in moisture. On the other hand, when damp weather comes on, the electricity at once disappears, and the immediate result is a loss of friction, from the fact that the cotton fibres are relieved of the expansion caused by electricity; consequently, they lie compact as they pass through the railway-head trumpet, and the result is heavy work far in excess of the gain in cotton fibres from taking on moisture.

Now, when we come to consider the subject of climatic changes, we see at once how essential it is to locate where an even temperature and pressures of air predominate. Cotton fibres will work to better advantage where climatic changes are uniform than otherwise. If, for instance, we get a loss and gain of moisture in cotton fibres aggregating 1.55 per cent. each way, and additional loss and gain of 2 per cent. each way from friction and loss of friction due to extreme climatic changes, is it not reasonable to suppose that a much better showing can be secured in the South, where quite a uniform temperature and humidity prevails?

F. E. SAUNDERS.

Lowell, Mass.

COTTON MILLS vs. POLITICS.

A Running Story by a Washington Correspondent on Southern Cotton Manufacturing.

MANY INTERESTING FACTS GATHERED FROM MILLMEN.

Shortly after the closing day of the late and apparently unlamented Congress the publisher of the Atlanta Journal, Mr. Cabaniss, wrote me from Atlanta in about this wise:

"Don't you think the people are tired of politics? I do. Come home, run down to Augusta, then over to Spartanburg and other manufacturing points, and give us your impressions of cotton manufacturing in the South. I am confident that the stories will not only be read, but will do good."

I was somewhat wary of the scheme, and though I agreed with my chief in his view of the matter that the country was tired of politics—certainly of politicians—I was not entirely convinced that I could myself become interested in the subject of cotton-cloth making, and I believe it is the experience of all newspaper writers that to approach making their articles interesting they must themselves be interested in the subject upon which they are writing. In this view of the matter I was entirely mistaken, and covering a period of many years in active newspaper work I am free to say that never before have I found an assignment so interesting or so agreeable. I had flattered myself that I was fairly well posted on Southern industrial matters. I found that I did not know the half.

No man who has not devoted years of study to the development of this industry in the South can appreciate the activity which obtains at this time or the magnitude of the industries now in successful operation in various portions of the section.

It has long been a question with the Southern people whether, in denominating cotton "King," the staple itself ruled or the people ruled it. It is my belief that prior to the manufacture of the staple in the South that cotton was king and the most capricious of monarchs—a king who would enrich his subjects one year but to impoverish them the next; a fickle commercial monarch who harnessed a great section to his chariot wheels and dragged it up and down in its progress.

In an inspection of something over fifty

of the largest cotton mills in the cotton belt and in the Piedmont section of Georgia, South and North Carolina, the list of those not making money, paying good wages to employees, and declaring good dividends to stockholders, could be counted on the fingers of one hand. The prosperity of these enterprises is their most marked feature. Nor is there in this statement anything of newness. Probably the most striking feature of this success—a feature which proves beyond contention that the prosperity is seemingly for all time—is the manner in which the Southern cotton mills, with but few exceptions, have weathered the recent financial storms.

In the panic of '93 and '94, when banks were cracking like oak logs in an open grate; when every click of the telegraph sounder in the newspaper offices told of the closing of factories in the North and West, throwing thousands out of employment; when soup-houses and free lunches were established for the benefit of strong men willing to work, the Southern cotton mills in Georgia, North and South Carolina were running on full time—some of them night and day—paying full wages to their employees and declaring dividends ranging from 6 per cent. upwards. Even to the mind of scrupulously cautious bent, where money is to be invested, one fact like this would seem sufficiently powerful argument to show that the place to manufacture cotton goods is in the South, where the cotton is grown, where the advantages of climate are conceded, where fuel is from 25 to 50 per cent. cheaper than elsewhere, and where labor is cheaper in the same ratio, and still up to the average in intelligence. An experience like this would certainly seem to rivet the nail for successful cotton manufacturing on the Southern side of the plank.

But it will be the purpose of this article to prove by even stronger tests than that of success in panicky times that the Southern cotton mill is more prosperous than its New and Old England competitor, and that this is due to well-defined and easily-shown causes.

Old textile manufacturers remember, for the day has not been so long distant, when the Old England cotton manufacturer scouted at the idea of New England's manufacturing a fine grade of cotton goods. "They haven't the climate," they said. "Nowhere outside of Old England, with its moisture and fogs, can fine cotton goods be made successfully."

How lacking in efficacy was this cry is shown in the immense plants which dot the New England waterways, making the class of goods upon which Old England so long enjoyed an undisputed monopoly.

Today the same cry is heard in the land. New England instead of Old England is telling the Southern manufacturer through its agents and newspapers, that he must confine himself to the manufacture of the coarser grade of goods. "You haven't the humidity," they tell us. "With your inferior labor you may make, through accessibility to the cotton-fields, the coarser grades of goods, but you can never make the higher."

Of course, to the practical manufacturer in the South, this is taken at its full value. But to the average Southern man who has not investigated the subject for himself there is apt to come something of doubt and suspicion. There is sufficient moisture in Augusta, Atlanta, Macon, Columbus, Spartanburg, Greenville, Charlotte—any of the Southern manufacturing towns between Danville, Va., and the lowest corner of the cotton belt—to manufacture any grade of goods. This statement can be supported by facts and figures. I present herewith a table prepared by signal service officials, which gives the average annual mean temperature of six important manufacturing points. Augusta, Ga., is the only Southern city cited, but it can be shown that it does not surpass its sister Southern manufacturing towns in this respect. Here is the table:

New Haven, Conn.....	74.6
New London, Conn.....	76.7
Eastport, Me.....	77.7
Boston, Mass.....	72.1
Portland, Me.....	73.3
Augusta, Ga.....	73.3

It was New London, Conn., that the distinguished Massachusetts economist, Mr. Edward Atkinson, cited as an example of a point where there was sufficient humidity to manufacture the finest grades of cotton goods. From the figures given it is seen that there is even more humidity in Augusta than in New London. But apart from these figures it is necessary, as it is well known, in the manufacture of the finer grade of cotton goods, both in the South and New England, to have the same degree of temperature in the mills at all times. This can only be accomplished by artificial means.

The question of labor is one which enters so largely into the question of successful cotton manufacturing that too much consideration cannot be devoted to it. It certainly is worthy of more than passing notice that while New England legislative investigating committees are sneering at Southern labor, deriding its intelligence and reflecting upon its character, their own is apparently continuously in a state of turmoil, while the southern mill operative works on through good and bad times in perfect content, saving his money, and educating his children. At the same time, the product which he turns out finds an even readier sale than that produced by his New England competitor, who is lauded so handsomely by the political junketers who travel southward.

In many of the Southern mills New England men are the superintendents. Their training was obtained in the factories of the North, and their sympathies are naturally with those in the home of their nativity. One of the most intelligent of the millmen is Mr. T. H. Rennie, of Lewiston, Me., the superintendent of the Graniteville (S. C.) Mills. He says about this question of Southern labor: "If we

wanted to do it, and our mills were equipped with the proper machinery, I would guarantee to take the labor we now have working in the Graniteville Mills (and it is all native born), without one day's extra preparation, and manufacture successfully the finest grades of cotton goods. The claim that the labor in the Southern mills is lacking in intelligence is a shameful piece of rot. I have been thrown with cotton mill labor all my life, and I have never seen more intelligent or industrious or more contented working-people than are to be found in this section."

Mr. H. E. Fisher, a New Englander, now superintendent of the Atlanta Cotton Mills, and for years connected with the famous Pemberton Company, of Lawrence, Mass., bears testimony in this wise: "In many respects," says Mr. Fisher, "I consider the Southern labor superior to that of New England. It is quite as intelligent, competent and industrious, and at the same time it is content. In this last respect the same cannot be said of New England. The oily-tongued agitator, together with the hard times which the New England mills have been experiencing, have played havoc with their labor. Our labor here is paid quite as much as the New England labor, but the cost of living is so much cheaper that the labor we have employed have a decided advantage over their fellow-workmen in New England. I am a New Englander and I know all about labor North and South, and it gives me pleasure to say that the report of the Massachusetts investigating committee to the effect that Southern labor was lacking in intelligence was a shameful, vicious falsehood."

Such testimony as that given above could be duplicated from almost any New Englander who has come in contact with Southern labor. Mr. Brittain, another New Englander, the superintendent of the well known Whitney Mills, at Spartanburg, S. C., thus tersely sizes up the situation: "I have employed labor North, South, East and West in cotton mills and I prefer the labor to be found here. It is the most intelligent, most adaptable and most practicable to be found on the face of this continent."

One heard much in the last Congress of the vaunted savings banks accounts of the cotton mill operatives in the New England mills. Doubtless the figures given by the representatives from those States were correct, but a parallel for them can be found in almost any Southern manufacturing point of long standing. In one mill in South Carolina, where a large dividend was declared the first year, many shares of the stock are owned by operatives in other nearby mills. There is, of course, much of shiftlessness to be found among mill operatives everywhere, but inquiry shows that there is less of it in the South than elsewhere. There are few "floaters," and the Southern mill superintendents know their labor perfectly, from the youngest child to the oldest and best operative.

Another advantage, and a superlative one it is, is the fact that through the assistance of the mills the operatives' children are educated practically free of cost. Particularly is this true with the country mills. Added to the State appropriation for education many of the country cotton mill corporations in the South build good substantial schoolhouses, and some of them donate as high as \$2000 a year to the employment of teachers. This, added to the State school funds, makes the standard of the country mill schoolhouses, in many instances, above that of the public schools to be found in the big cities.

If it be true that labor is best when it is content, it reaches its highest plane in the South. Cotton manufacturing has been carried on in and around the city of Columbus, Ga., since 1835. From one mill

the number has grown to six or seven, embracing the largest single plant in the South. Yet in this sixty years of cotton manufacturing there has never been a strike. Not once has the labor of this section been on unfriendly terms with its employers, and the two have worked side by side for the mutual advancement of each. In Spartanburg county, S. C., where there are more spindles in operation than in any other Southern county, there has never been any friction between labor and capital, and in Augusta, Ga., the largest manufacturing city in the State, one strike, of short duration, represents the total disagreement between employer and employee.

The question has been raised as to where labor would come from if there was a great influx of Eastern millmen to the South for the purpose of starting new mills. Would it be necessary to import labor from New England or elsewhere? This question is answered by the experience of the mills already established. The statement of the mill presidents of Augusta (and it is made unanimously) is to the effect that there is sufficient educated labor in that city today to equip another new million dollar cotton factory without crippling any mill now in operation. The same is true of Columbus. It will be proven true of Atlanta, where New England money is putting up a new cotton factory. In Spartanburg county, S. C., there are three mills now in process of construction, which will operate 85,000 spindles. For these mills home labor will be employed. The native article will also be used in the Carson Mill of 10,000 spindles and the new \$500,000 mill to be erected by the Spartan Mills. There is labor in abundance.

When one finds failure in cotton manufacturing in the South it can be traced always to one of three causes: First, and most important, old machinery; second, inexperience in the management; third, insufficient capital. There is no other possible reason for failure unless a lack of intelligence is shown in location with regard to waterways and railways.

The day when the Southern cotton manufacturer looked out for old machinery to purchase, with the crude ideas of economy which obtained in the earlier days of cotton manufacturing in the South, has long since passed. Nothing now but the newest and the best will suffice him. It will be found on a trip through the Southern mills that there is the fewest number into which new machinery is not now being placed. Particularly is this true in the older manufacturing points located in the very centre of what is known as the cotton belt.

Many Southern millmen paid dearly for their belief that cotton machinery would last longer than its allotted time. One of the chief causes for the almost complete wrecking of one of the most conspicuous cotton mills in the whole South was the fact that its avaricious directors voted enormous dividends and allowed the machinery in the mill to run down and become out of date.

At one time there was something of a market for old machinery in the South. Today it is broken up with sledge hammers, thrown out of the windows and disposed of as junk. The mistake is no longer made that repairs can replace machinery, and the wonderful strides in human ingenuity and the wonderful progress in the mechanical mind is taken heed of by every up-to-date millman in the South. Machinery may live twenty years, but it has outlived its day and generation most often when it does. The most successful mills, no matter where they are located, are those which have command of plenty of money at all times, either their own or such as they can hire certainly and cheaply, and such mills as invariably keep abreast of the times in every improvement in machinery.

One great error that many Southern manufacturers make when they first begin operations is that they fail to supply themselves with sufficient floating capital, and very often imagine that because a man is a good merchant he will make a good manufacturer. Insufficient capital has probably wrecked more institutions than the second cause, but both of them are grievous errors and now happily are becoming less each year. Mills that observe the cardinal rules, brains at the head, money in the treasury and new machinery when required, never fail in the South.

There are some very striking instances of mills succeeding at the South when managed by men of absolutely no experience. These men, it is true, enjoyed a reputation for good business attainments and shrewdness, but nevertheless it is somewhat remarkable that they should have succeeded without previous knowledge of a business so technical and one which usually requires life-long study to make successful. There is something of danger in pointing out the success of men who prosper in the cotton manufacturing business without previous knowledge of it. Experience has taught that in such cases where one succeeds one hundred will fail.

Some Southern manufacturers have adopted the policy of running their mills night and day. They claim that it insures for them a double return on their money invested—at least in the machinery. If the machinery is dead in twenty years with only day work it will die in ten years with night and day work both. At the same time it is of inestimable advantage to any mill to replace its machinery at the end of ten years. This night-and-day experiment has been tried very successfully at Gaffney, S. C., where an unusually fine grade of goods is being manufactured. Thirty-six to forty yarns are spun in making print cloths. The mill at Gaffney is not quite two years old. Yet, from the very first, 5 per cent. semi-annual dividends have been declared, while a surplus of large proportions has already been set aside. Starting with 10,000 spindles, a new mill is now being built with 40,000 more spindles to be run night and day, as has the original mill since it was started. In this connection it is also to be noted that the new mill at Tucapau, S. C., which is about near completion, with a 15,000-spindle capacity, is also to manufacture a fine grade of goods. The same is true of the new \$400,000 mill in process of construction at Bath, S. C., of which Mr. Charles Estes, the well-known president of the King Mills at Augusta, is to be the treasurer and the general manager.

It would be a waste of words to write of the advantage the South has in the raw material at the very windows of its mills. Besides the immense saving in freight rates which such a state of affairs insures, the Southern mill manufacturer can select his own grades all the year round, an advantage which no other manufacturer in the world enjoys.

The climate is all that any manufacturer can desire. The days are longer, and Southern legislation, when there has been any at all on the subject, has been directed toward securing capital for investment in cotton manufacturing. With the raw material at Southern doorsteps, with timber in abundance, with hills abounding in the best and cheapest fuel, with good law and good labor, and a suitable climate, it would seem that the South, if it did not some day become the master of the cotton manufacturing business in all of its ramifications, would present a scheme of nature which had failed.

The strongest and most potent argument in favor of establishing cotton mills in the South, of putting one or more in every community where the staple is grown, and where cheap fuel and cheap water can be procured, is the fact that, with one or

two exceptions, the Southern mill presidents decry the starting of new mills. To one investigating the subject in the South—a Southerner representing those who desired to aid the section—it seems strange that this state of affairs should exist.

It was partially explained by one Southern mill president as follows:

"We are doing well by virtue of knowledge and attention to our business. I do not deny that we have superior advantages over New England in the manufacture of cotton goods of any grade, high or low. But we feel that if the newspapers continue to exploit the success of our mills the market will soon be crowded with Southern goods and the competition will become terrific. Our profits will naturally be reduced. We haven't got a gold mine. We simply have got a good thing, but it is one we don't care to have pushed along too rapidly."

This was a very unique way of looking at progress, and was convincing only in an opposite direction to that desired by the mill president. It was worthy of the thought which obtained in business circles fifty or one hundred years ago. No one doubts that the cotton manufacturing industry is even now in its infant stage, and is susceptible of phenomenal developments. Competition has benefitted the Southern mills. This is shown by the unparalleled prosperity of all the mills in the largest manufacturing county of the South, where nearly one hundred thousand bales of cotton more than is raised in the county is manufactured in it. The market for cotton goods is by no means an exclusive one. The purchasers for every bolt of goods, wherever manufactured, are found in the same centres. The location of a cotton mill in Nova Scotia would be just as disastrous or just as advantageous, according to the way men think, to the mills already established in the South as the establishment of a new mill in that section. It seemed to be the idea of these millmen that all of the New England manufacturers, from the exploiting which the newspapers at that time were giving the subject, would move South. This, unfortunately, was not true; but if it had been so, it would not only have been beneficial to the South, but to the mills already established there, for with the coming of new mills in greater number must also come a revolution in the methods of manufacture.

The desideratum is cheapness, and while many of our Southern mills are what may be termed up-to-date concerns, many of them have yet to learn what it is to make the cost of production minimum. In many instances the South's decided advantages she has alone to thank for the

phenomenal prosperity which has generally been the fortune of her manufacturers.

The manner in which the Southern towns where cotton manufactories existed stood the panic is evidence of the great advantage to be gained by every community through their establishment. A cotton mill is a generator of trade, and it puts into the local channels of commerce money every two weeks which, in hard times, actually gives sustenance to the grocer, the butcher, the clothier, etc., while the capitalist himself is kept alive by the stream of money which comes through the manufacture of cotton on the spot where it is grown. No other cities in the South show the same degree of prosperity as do the cotton manufacturing centres. None others stood the panic so well.

Here and there throughout the South New England men are putting up cotton mills. In many instances these are called branches of the New England establishments. It is not wise for men to think that the South will prostrate the New England manufacturer and reap all of his profits. It is not sensible for men to suppose that the New England manufacturer who has thousands upon thousands invested in plants north of Mason and Dixon's line will remove them to the South. This he could only do with loss of money and sacrifice of years of time. But no one who has investigated the subject has the slightest doubt of the fact that all of the new money invested, all of the development of this enormous and far reaching industry, will come to the Southern States. Only years of prejudice, left by a cruel war, has prevented the coming of the Eastern Fortunatus long ago. The timid craft capital, which in times like these sails cautiously from port to port, looking for safe anchorage, is sailing southward. THE MANUFACTURERS' RECORD tells us each month of the establishment of new enterprise in the South with Eastern and English capital. Every day the newspapers report material progress, and every one of them is attuning its editorial ear to the industrial march which has, at last, surely set in.

It was Omnipotence that caused the fleecy staple to sprout in Southern fields, and there alone, in all this vast Western hemisphere; it was the Divine hand that placed the timber in its forests wherewith to build the mills that caused the fuel to bulge from its mountain sides, and gave the glorious climate with which the South is blessed—all aiding in the transfer of cotton to clothes for human kind.

Will the Southern people stand in the way of natural and seemingly Divine laws?

JOHN S. COHEN.

THE MANUFACTURERS' RECORD commends to the attention of its Northern readers who wish to know something about the South the descriptions (both in reading and displayed advertising columns) of many thriving Southern localities offering attractive opportunities for investment. Any additional facts desired in regard to these places can be secured by corresponding with the municipal or trade-organization officials whose names are mentioned.

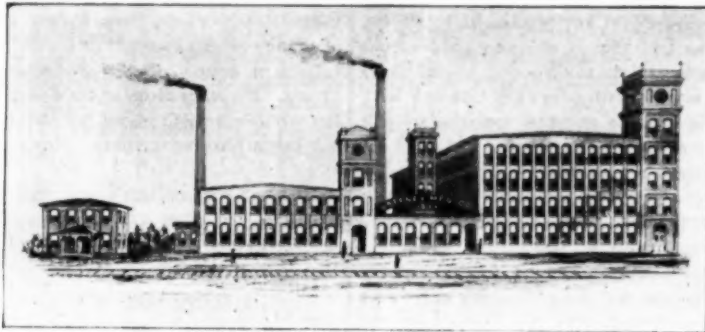
MACHINERY buyers, present or prospective, North and South, will find in this issue many advertisements of the foremost houses of the country. Our columns contain what is practically a catalogue of the great machinery and supply builders and dealers of the entire country. If this issue were of no other value, such a complete presentation of machinery and mill supplies as is given would make it well worth careful investigation and filing away for future reference.

A GROUP OF SUCCESSFUL MILLS.

Inception and Growth of the Industry in the Piedmont Region.
Some of the Leaders and Notable Examples.

The rapid growth and the great success of cotton manufacturing in the Piedmont region of South Carolina, especially in the counties of Spartanburg, Greenville and Anderson, have been truly remarkable and

Piedmont region for the manufacture of cotton goods, to wit: Cheap mill sites and unsurpassed water-powers, easily and cheaply developed; a prosperous and fertile country tributary and supplying cheap raw



GAFFNEY MILL, GAFFNEY CITY, S. C.

without a parallel anywhere else in this country. A brief review of the leading mills in these counties and of the causes that have contributed to their financial prosperity may not be without interest just at this time, as pointing out the possibilities of cotton manufacturing in the South.

Until twenty-five years ago the people of these counties were almost exclusively devoted to agricultural pursuits. There were scarcely a half dozen small cotton mills in this whole section, with an aggregate capital of possibly less than \$100,000, and making usually nothing but yarn. There was a great "dearth" of railroads, and in consequence farmers were forced to haul their cotton and other products in wagons hundreds of miles to Augusta and to Columbia, then the principal markets for the farmers of upper South Carolina.

In 1872, however, the Piedmont Air Line Railroad (now the Southern Railway) was built through the heart of this Piedmont region, and this line put these counties in direct communication with the North and the East and the great Northwest. Numerous tributary lines were then built, some north across the Blue Ridge mountains to the coalfields of Tennessee, and others south to the principal seaports on the Atlantic coast. Cities and towns began to spring up all along these different lines, magnificent farming lands were settled and opened up, and in a short while not only the population, but also the productive wealth of this section was doubled. The old market farm-wagons were supplanted by the railroads, the farmers readily disposing of their products at the nearest railroad stations. Such was the transformation brought about by the building of railroads.

Now this whole Piedmont region is simply threaded with a net-work of swift-flowing rivers, which rise in the Blue Ridge and run their rapid course in a southern direction to the Atlantic ocean. On these rivers and near the railroad lines there are hundreds of large water-powers. It was but natural, therefore, that shrewd business men should begin to think of utilizing these water-powers for manufacturing purposes, and especially for cotton-manufacturing. They began to inquire into the causes of New England's great prosperity, and found that manufacturing was the basis. They began to ask questions such as these: "If New England can pay heavy freight charges and manufacture cotton goods one thousand miles away from the base of supplies, and grow rich thereby, why can't cotton goods be profitably manufactured where the cotton can be had at the factory doors? What special advantages can New England claim over the Piedmont region of South Carolina?" They took note of the natural advantages of this

material at the mill doors; splendid transportation facilities to the great markets of the country and to the principal seaports; a uniformly mild and healthful climate, specially favorable to cotton-manufacturing; an abundance of native-born labor and no disturbing labor laws; cheap building



ENOREE MILLS, ENOREE, S. C.

material, cheap fuel and nearness to the coal regions. These and numerous other exceptional advantages which this Piedmont region offered to the manufacturer of cotton goods fully satisfied wide-awake capitalists and investors that this section possessed natural advantages that eclipsed any to be found in New England.

Appreciating these natural advantages, here and there some bold pioneer would organize a company, buy a water-power near some railroad line and proceed to build a cotton-mill. The success of these first mills would induce others to build factories, and it soon was demonstrated beyond question that the mills in this section were not only dangerous rivals to the New England mills in the production of the coarser grades of cotton goods, but further that the mills in this Piedmont region could manufacture and sell goods at profitable prices at which the New England mills could not manufacture the same class of goods.

For ten years the cotton mills of this Piedmont region manufactured the coarser grades of goods only, but during the past five years here and there a manufacturer would dare to spin fine numbers, and, contrary to the predictions of New England manufacturers, success would crown the venture. The result has been phenomenal and a revelation to the manufacturers of the East. It does not require the wisdom of a seer for one safely to prophesy that the dawn of the twentieth century will

witness as fine goods manufactured in this region of the South as are to be seen today in New England. But lest some should say that these claims are extravagant and the opinions of an enthusiast, let us briefly narrate the history and growth of the cotton mills in these three counties, and see if facts and figures do not warrant the assertions here made.

COTTON MILLS IN SPARTANBURG COUNTY.

Spartanburg county enjoys the distinction of having more cotton mills, operating more spindles and looms and investing more money in the cotton-manufacturing business than any other county in the South. There are in the county fourteen distinct companies and, counting the four mills in process of construction, twenty-one separate mills, with combined capital stock of over \$5,000,000, operating 326,486 spindles and 9008 looms, consuming annually 113,700 bales of cotton, employing 6430 operatives and paying out in wages more than \$1,127,000 a year. When all the mills projected are completed, one-half the population of Spartanburg county will be dependent upon the cotton mills. The mills have been very successful, and have laid aside large surplus earnings, besides paying large annual dividends to the stockholders. Only a very general review of these mills will be attempted in this article, but the data given can be relied on, as it was obtained from the officers of the several companies.

pressed a preference for the Gaffney goods over the same grade manufactured in New England. The mill has been run continuously night and day, consuming 3000 bales of cotton, and paying its 270 operatives \$70,000 annually. The success of this mill has been remarkable, and a ten per cent. dividend was declared the first year of its existence, besides laying aside a surplus. At the annual meeting in July, 1894, the stockholders were so well pleased with the showing made that they determined to build a new mill, and increased the capital stock to \$600,000, adding 40,000 spindles and 1100 Draper looms. The new mill will be 322x103 feet, five stories, with building for boiler, engine and machine shops 150x50 feet; the walls of this mill have been finished to the second story, and the plant will be in operation by November next. The steam plant for this new mill will be as fine as can be found anywhere in the world. This mill will employ 400 operatives, and use 6000 bales of cotton. Both mills are located on forty-two acres of land in the centre of Gaffney City. Church and school buildings will soon be erected, and the school will be run by funds donated by the company. The tenements are good substantial structures, about one-half the tenements being built of brick, and are said to be far above the average Northern tenements. All are plastered or ceiled and painted, and each house is occupied by a single family. It would be difficult to find healthier or finer-looking operatives, and certainly their superiors are not seen in New England. A. N. Wood is president and H. D. Wheat is treasurer and general manager of the company.

ENOREE MILL.

The Enoree Mill was built in 1890, and mostly by Charleston capitalists. It is located on Enoree river, twenty-three miles south of Spartanburg, and on main line of Port Royal & Western Carolina Railroad, at a place long known as Mountain Shoals. For over one hundred years a corn and wheat mill had been operated on these shoals, and tradition has it that this was the first mill built before the Revolution in the southern portion of the Piedmont section of the South. The Enoree Mill at first contained but 10,000 spindles; 6,000 more spindles were added in 1892; and again in 1893 there was a further increase, so that the plant to-day consists of 30,720 spindles and 820 looms, giving employment to 550 operatives, and using 11,000 bales of cotton per annum. The main mill is 270x100 feet, four stories, and the picker building is 16x85 feet. The product of the mill is sheeting and drills, sold in the Northwest and other sections

GAFFNEY MILLS.

In 1892 the Gaffney Manufacturing Co. was organized, and in 1893 Gaffney Mill No. 1 was completed and equipped with the latest and best machinery that could be bought, consisting of 10,652 spindles and 300 looms. The main building is



PACOLET MILLS NOS. 1 AND 2.

261x75 feet, two-stories, with boiler, engine and cloth-rooms 120x40 feet, all brick. This was the first mill in the South to make print cloth, spinning yarn of twenty-eight warp and thirty-six to forty filling. The product is shipped to Northern bleacheries and printers, and from the first has not only been in great demand, but, in consequence of its quality, buyers have ex-

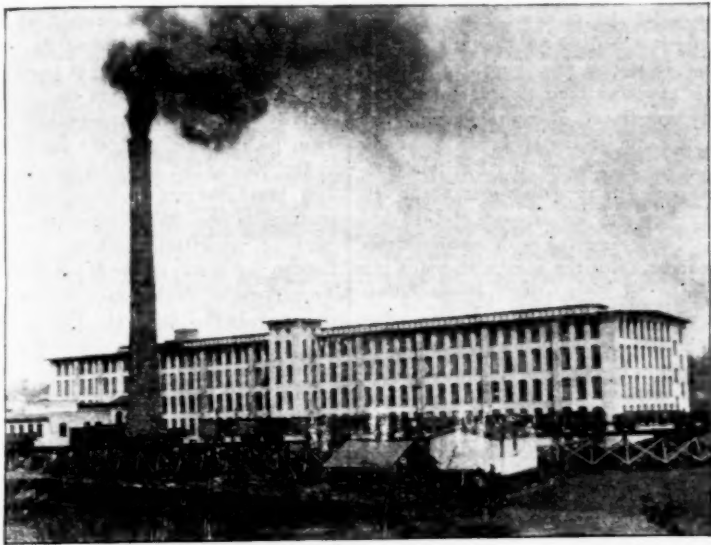
of the United States, and also largely exported to China. The yearly output is about 4,000,000 pounds, the yarn averaging 18s. The population of the factory town is 1200. The company employs teachers and runs a school eleven and one-half months free, giving a two weeks' vacation during the Christmas holidays. The capital stock of the company is \$400,000,

with an annual pay roll of \$108,000. Grange S. Coffin is president and treasurer, and it is needless to say that the Enoree Manufacturing Co. is one of the most prosperous corporations in South Carolina.

PACOLET MILLS.

Pacolet Mills are located on Pacolet river, thirteen miles southeast of Spartan-

burg, and with a capital stock of \$150,000, payable in shares of \$100, on the co-operative plan of \$1 a month on each share, but the plan proved too slow for the Spartans. The stockholders soon decided to change the original plan to that of a regular joint-stock company, with instalments to be paid in as wanted. Capt. J. H. Montgom-



SPARTAN MILL, SPARTANBURG, S. C.

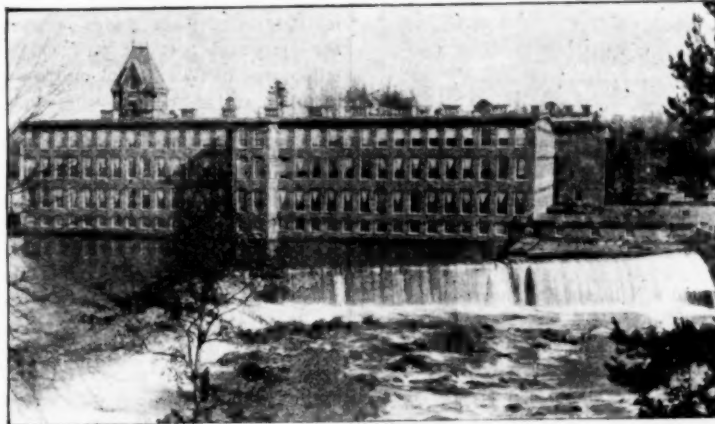
burg, and with branch of Spartanburg, Union & Columbia Railroad running to mills. The Pacolet Manufacturing Co. was organized in 1882 with a capital stock of \$300,000, and with J. H. Montgomery as president and treasurer. Mill No. 1 was built in 1883 and equipped with 12,000 spindles and 328 looms. As this mill was unusually prosperous the capital stock was increased \$150,000 in 1887, and in 1888 mill No. 2 was built, being added onto the end of mill No. 1. This mill contains 14,244 spindles and 594 looms. Both mills have a combined length of 496x70 feet, exclusive of picker, boiler and engine-rooms, three and four stories high, and contain 26,244 spindles and 922 looms. These mills were operated so successfully that the company again increased its capital stock \$250,000, and in 1893 built mill No. 3, on a water power one-half mile below mills 1 and 2. This mill No. 3 is 387x100 feet, five stories high, and contains 26,700 spindles and 1024 looms. The Pacolet Mills 1, 2, and 3 have a combined capital stock of \$700,000, contain 52,924 spindles and 1946 looms, consume yearly 22,000 bales of cotton, employ 1200 operatives, whose wages aggregate \$228,000 a year. The products of these mills are sheeting, shirting and drills. A portion is converted into bleaching, but most of the goods are exported to China and other countries of the East. The annual output is about 30,000,000 yards. The population of the town is over 3000. The company for years has assisted in maintaining a ten-months' free school, and all the departments are so systematically arranged that this school is really a graded school, and is excelled possibly by few, if any, schools in South Carolina. The Pacolet Manufacturing Co. has regularly paid 5 per cent. semi-annual dividends, has accumulated a large surplus, a portion of which has been expended in the additions and improvements that have been made from time to time.

SPARTAN MILL.

Spartan Mill, located near the centre of the city of Spartanburg, catches the eye of every passenger over the Southern Railway, and is admittedly one of the finest mill structures in the South. The bankers and other business men of Spartanburg were the prime movers in the building of this mill, and Capt. W. E. Burnett, cashier of the National Bank, was the moving spirit and the most active promoter of the enterprise. It was first proposed to organ-

ize with a capital stock of \$150,000, payable in shares of \$100, on the co-operative plan of \$1 a month on each share, but the plan proved too slow for the Spartans. The stockholders soon decided to change the original plan to that of a regular joint-stock company, with instalments to be paid in as wanted. Capt. J. H. Montgom-

lin, who had made such a success of the Pacolet Mills, was called to the presidency of the Spartan Mill Co. Shortly afterwards some Northern capitalists made a proposition to subscribe \$250,000 to this Spartan Mill Co., provided the people of Spartanburg would increase their subscriptions to a similar amount. This proposition was readily accepted, and the



CLIFTON MILL NO. 2, CLIFTON, S. C.

capital stock increased to \$500,000. The Spartan Mill was completed in 1890; is 420x100 feet, exclusive of boiler and engine-rooms, four stories high, each story being fifteen feet in height; is equipped with 32,160 spindles and 1400 looms; consumes 9000 bales of cotton annually, making 15,000,000 yards of cloth, and pays its 650 operatives \$108,000 a year. The product of mill is sheeting and drills, and a large percentage of the goods is converted into bleaching and printing. M. G. Stone is superintendent of Spartan Mill, as well as of the Pacolet Mills, and few manufacturers are more thoroughly familiar with all the details of the business. So great has been the success of Spartan Mill that Captain Montgomery recently gave out the statement that the Northern stockholders were urging the building of Spartan Mill No. 2, and that a second mill would soon be built without doubt. The capital stock of this new mill will be not less than \$500,000, and possibly more. The operatives enjoy the best of church facilities, and a branch of the city graded schools is located in the very centre of the factory village.

THE D. E. CONVERSE MILL.

The first mill ever built in Spartanburg county, and one of the first in South Car-

olina, was located on Lawson's fork, five miles east of Spartanburg, and on site of the present factory, the D. E. Converse Mill. This old mill was erected in 1836 by Dr. James Birings, and the mill was known as Biringsville. In 1866 D. E. Converse was made manager. A. H. Twichell was admitted to the firm in 1870. In same year Mr. Converse bought out the other interests and the firm name changed to D. E. Converse & Co., the firm consisting of Converse, Zimmerman and Twichell. A new mill was built and started in 1867 (130x50 feet), containing 2160 spindles and twenty-four looms, the old mill having been abandoned. Machinery was put in from time to time until mill contained about 4800 spindles and 136 looms. The name of the place was changed from Biringsville to Glendale in 1878. The D. E. Converse Co. was incorporated in 1889 with capital stock of \$150,000, and this capital increased to \$300,000 in 1890, and a new addition (170x100 feet) was then built.

The mill at present contains 17,280 spindles and 518 looms. It manufactures sheeting, shirtings and drills; annual product, 700,000 yards, consuming 6700 bales of cotton. There are 350 operatives, who are paid in wages \$60,000 annually. A public school runs nine months free, the company paying for five months. D. E. Converse is president, and A. H. Twichell is treasurer of the company.

CLIFTON MILLS.

Having made a great success of the mill at Glendale, it was but natural that Mr. Converse should look out for a wider field.

In 1880, therefore, we find him purchasing a large area of land and several water-powers on Pacolet river, seven miles east of Spartanburg, and near line of the

and drills, and mill No 2 medium sheeting, with an annual output of 27,000,000 yards, and using 20,000 bales of cotton. These goods are sold in the United States and largely exported to China, Africa and South America. Over 1100 operatives are employed, who receive in wages \$190,000 annually. There are two splendid schools at these two mills, running ten months free, and attended by 500 pupils. The company donates large sums for this purpose, and two splendid church buildings have been built by the company.

On May 7, 1895, the Clifton Company increased the capital to \$1,000,000 and decided to build mill No. 3 on water-power one mile above mill No. 1, and within a few hundred yards of railway line. This mill is now in process of construction, and will be 320x101 feet, four stories, and equipped with 35,800 spindles and 1000 looms; will consume 19,000 bales of cotton annually and make 20,000,000 yards of cloth, heavy sheeting and drills. When mill No. 3 is completed the Clifton Company will operate 86,648 spindles and 2674 looms. The Clifton Company pays regularly a 5 per cent. semi-annual dividend, and, besides laying aside a large surplus, has used its earnings to a large extent in making additions to its plant. D. E. Converse is president, and A. H. Twichell is treasurer.

MILLS IN GREENVILLE AND ANDERSON COUNTIES.

Though these two counties have not so many mills as Spartanburg county, yet when the mills now in contemplation materialize and those in process of construction are completed, each of these counties will become a worthy competitor in the cotton-manufacturing industry in South Carolina.

PIEDMONT MILLS.

After the sale of the Batesville Mill in 1862, Col. H. P. Hammett, its financial manager, was made president of the Columbia & Greenville Railroad, but so strong was his love for the manufacturing business that he soon began to agitate the building of a large mill at a fine water-power on the Saluda river, eleven miles south of Greenville and near this railroad. In 1873 the company was organized with a subscribed capital stock of \$350,000, and with Colonel Hammett as president. Work on the building was begun, but the financial panic of 1873 came, and many of the stockholders could not pay their subscriptions, and work was suspended for eighteen months. By indomitable determination and untiring energy, Colonel Hammett was able to complete the building in 1875, and in March, 1876, the first thread was spun. The first building was 200x50 feet, containing 10,000 spindles and full complement of looms. This mill was run for some years, and was successful to such an extent that all available space was filled with machinery. In 1882 an addition was made to the original building 287x70, making the dimensions of these two mills 487x50 and 70 feet, three stories high. The capital stock was increased to \$500,000,



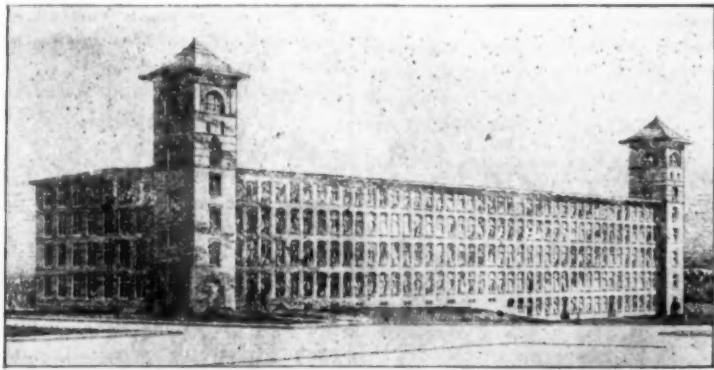
PIEDMONT MILLS, PIEDMONT, S. C.

In 1888 the capital stock was further increased to \$700,000; and mill No. 2 was built on power one half mile below mill No. 1, and was equipped with 27,776 spindles and 877 looms. Mill No. 1 is 407x74 feet, three stories; mill No. 2 is 260x100 feet, four stories; the two mills contain 50,848 spindles and 1,674 looms. Mill No. 1 manufactures heavy sheeting

and was all taken by the original stockholders. The mills 1 and 2 then contained about 24,896 spindles and 600 looms. These mills paid handsomely, and Colonel Hammett began to plan for the building of another mill just across the river on the Anderson county side. Mill No. 3, 300x100 feet and four stories, was completed in 1889; was equipped with 23,520 spindles and is

one of the handsomest mills in the State. The capital of this mill was placed at \$300,000, surplus being used in part, making the combined capital of mills 1, 2 and 3 \$800,000, operating 48,564 spindles and 1444 looms. The product of the mills consists of sheeting, shirting, drills and yarn, sold in Africa, China and other countries in the East. The output is 80,000 yards per day, and the annual consumption of cotton 24,000 bales. There are employed 1150 operatives, nine-tenths of whom were born within forty miles of the mills and received their mill training here. The company owns 1100 acres of land surrounding mills. Here is an ideal factory village of 3000 people, who are perfectly contented and are above the average in intelligence; are noted for their sobriety and for the maintenance of law and order; are in thorough sympathy with the mill management and are proud of its financial success. There are three churches in the village and two schools, which are supported by the company and are run ten months free; seven stores, buildings owned by the company, but rented to the merchants. In the mill building is a library of 1850 selected volumes, and 8500 books were taken out and read in the families during last year. Mr. A. S. Rowell, overseer of the clothroom, is the only New Englander in the mill, having come South for his health fourteen years ago. He says that no section in the world is so favorable to the health of operatives as this, and that the cry that our climate is unfavorable to

are the Pelzer Mills, located in Anderson county. The Pelzer Manufacturing Co. was named in honor of Mr. Frank Pelzer, of Charleston, one of the largest stockholders and promoters of the enterprise. This is one of the closest corporations in the State, and it is almost impossible to obtain any accurate data as to the growth and the success of the business. Suffice it to say that additions to the plant have been made from time to time, and there are now in operation mills 1, 2 and 3, having 53,000 spindles and 1515 looms. The town of Pelzer has a population of 4500, ten stores (buildings owned by company and rented to merchants), a splendid hotel, public hall or opera-house, two churches, a public school with 370 pupils, maintained by the company for ten months in the year, lyceum and reading-rooms containing 2500 volumes, and taking twenty-five daily, weekly and monthly publications, all free to the people of the place. There is also a bank, the Chicora Savings Bank, a separate corporation from the Pelzer Company, which has a capital stock of \$10,000, deposits amounting to \$32,853.80, and undivided profits of \$6790.28. Capt. Smyth is president, and L. D. Blake, cashier. Mill No. 4, now in process of construction, will be in operation in a few months, and when completed this will be possibly the largest cotton mill in the South under one roof. This mill is located nearly one mile from the other mills, but there will be but one factory village. The building is 506x125 feet, four and five stories high. The power



NEW PELZER MILL, PELZER, S. C.

the manufacture of fine goods is all bosh. The average death rate is fifteen persons per year, and seven-tenths of these are old people and children. The report of death rate made for the last census was so small that the commissioner doubted its accuracy and would not accept same until the affidavits of resident physicians were forwarded verifying its truth.

The success of these mills is due to the fact that the operatives are natives, and consider Piedmont their home; the superintendent, overseers, etc., have grown up with the mill (the present superintendent, Y. F. Her, has been with mill since 1875), and there is the best of good-will existing between employers and employees. Colonel Hammett was president of the Piedmont Mills for eighteen years, and a monument has been erected by the company near the entrance to the old mill as a testimonial to his worth as a man and as a fitting acknowledgment of the great services rendered to his county and his State in the impetus he gave to the cotton-manufacturing industry in South Carolina. After the death of Colonel Hammett, in 1891, Col. Jas. L. Orr, his son-in-law, was elected president of the company, and his administration has been eminently satisfactory to the stockholders. Colonel Orr authorizes the statement that an addition will be made to the plant during this summer and 5000 spindles added, and without increasing the capital stock of the company.

PELZER MILLS.

Just five miles south of Piedmont, on the same stream and near the same railroad,

required will be 2000 net horse-power, and the machinery will be driven by electric transmission from water-power two and one-half miles distant. When this mill is equipped, the Pelzer Company will operate 107,000 spindles and 3200 looms, and will consume annually about 45,000 bales of cotton. Pelzer will then have a population of nearly 10,000, and will be the largest mill town in the South. The company owns some 1900 acres of land, has a capital of \$1,000,000, and is known to be one of the most successful and profitable cotton-mill corporations in the State. Capt. Ellison A. Smyth is president and treasurer, and B. F. Guy, superintendent.

Such, in brief, is a general review of the principal cotton mills of Spartanburg, Greenville and Anderson counties. Exact figures as to the net earnings of these mills cannot be obtained, as there is no bureau of statistics in South Carolina, and the mill officers are not inclined to make public the profits of their respective mills.

Most of these mills, however, have been regularly paying five per cent. semi-annual dividends, and at the same time laying aside a large sum for running expenses; many have increased, and some have doubled, their original plants, largely out of surplus earnings, issuing merely nominal amounts of new stock, and, notwithstanding the payment of these large dividends and the expending of large sums in increasing or doubling the mill plants, the market value of their stock has steadily advanced, and such stock is today quoted at from 125 to 156, and none offered for sale at these figures. The stock of one mill, less than two years old, is to-day quoted at 142, and the mill is now making more money than ever before.

T. B. THACKSTON.

Spartanburg, S. C.

THE SOUTH'S COTTON MILL ADVANTAGES.

A Writer Who Believes "Self-Help" the South's Strong Point for the Future.

BLACKSBURG, S. C., April 20.

Editor Manufacturers' Record:

That visiting committee of the Massachusetts legislature came South and returned—marched down the hill and up again. It was a vain hope if Southern people expected their coming would lead to any investments of capital coming from the East to be invested South. Their object was to prevent it. But this committee, on their returning tour, at the few points they stopped at, were "wined and dined" and tendered with commendable and proper spirit the hospitalities due to a committee of legislative representatives from one State in another. The committee having come and gone, the natural enquiry comes up as to what prompted this official visit of inspection.

These people had from published statistics an exact account of the number and kind of every spindle and loom that was being operated in the South. They well knew both the quantity and quality of the products of the Southern cotton machinery; well knew where this machinery was purchased and what had been paid for it in New England; hence, they did not come for the purpose of ascertaining these facts. But the writer opines these visits down and up the hill again had some "buncombe" of a semi-political character in them. More threatened, adverse and unfriendly legislation called for at their hands has not tended to improve the outlook for future cotton spinning in Massachusetts and in some of the adjoining Eastern States. Were these visits intended to bring the legislatures of these States to a sense of the injury such past and prospective legislation was likely to inflict on the heavily-invested cotton-manufacturing industries within their borders, or was it to conjure up and hold in bold relief the danger of cheap competitive labor at the South before the eyes of the horde of Eastern mill operatives, now being paid far better wages than Southern operatives, but which labor lives and breathes in a state of feverish excitement, ever ready to strike or to threaten to strike—to counteract such a spirit, and to prove to their operatives that striking against present rates paid for their services would not only prove abortive, but would leave the field open to encourage the growth of Southern cotton-spinning enterprises. The writer believes that every big strike in the East will cause the building of several cotton mills at the South, and even if those mills may be small at the beginning, the experience of the past proves that they will speedily increase in size.

No matter what the motives of the legislative committee were, they very properly met with a cordial and hospitable reception, and should have gone home well pleased with their visits, as indeed they left our people, their hosts, well pleased with their visitors.

These visitors saw our mills alongside of the fields producing cotton, in many cases receiving much of their cotton from the surrounding country, with no freight whatever taxed on it. They saw the plain, cheap houses in which the operatives lived—cheap of construction—far cheaper than their own operatives could possibly exist in in their Eastern rigorous climate. They saw a lithe and active class of operative labor, apparently in a cheerful, happy and contented mood, handling machinery as if they had been trained to it in Eastern mills. They saw and were told of the cheapness of Southern mill construction, and of all material used in construction of the same. They saw and were told of the

cheapness of living at the South. And in several places they saw water-powers on never-failing streams, free from ice and damaging floods the year round, where the cost of power was less than \$5, and in some cases less than \$2, per horse-power the year round; and where coal was used exclusively to generate power, that the coal used, quality considered, was cheaper than in the East. But most important of all, they heard nothing of labor agitation or labor agitators, labor assemblies, or that class of parasites, "walking delegates." Poor as the South is, she is not taxed with the support of such a race of vagabonds, who, to say the most and the least of it, but live to prey on the life's blood, and fatten and agitate on the hard-earned money of honest but deluded working people.

And yet the South has cause to and does thank this committee for coming to visit our section to see and be seen. If, indeed, the Massachusetts legislature profits by this object-lesson, and pauses in all proposed or contemplated adverse measures toward its cotton-spinning industries, it will be well for its people and can do us no harm.

Having failed in an appeal to arms to disrupt this great country, and being an integral part of this great nation, supposed to be inhabited by a free people, we have, as we are now exercising it, a perfect right to enter fully and freely in the competitive race of any line of industry that is open to the people of any other section of the country. *New England has no prescriptive right to monopolize or attempt to monopolize this cotton-spinning industry, and she can't do it.* Old England once occupied the same position towards New England that the latter does today toward the South. The old country looked with a jealous eye on the infant spinning industries of New England. By looking up old files you can see how it was predicted in Lancashire that New England could and would spin the coarser yarns, but that her rigorous climate was such that finer fabrics could not be produced on this side of the Atlantic. "History but repeats itself," and it would seem today, from reading similar statements, that they were not rehashes of old reports, but copied out of whole cloth. Only a dozen years ago we were entirely in the coarse-goods market, but rest assured the mills of the South will climb the ladder rung by rung, a half-dozen numbers at a stride, until our mills spin the finest of fine fabrics, and weave them, too, and our present labor will be found sufficiently skilled to accomplish this end.

In the earlier days of Eastern spinning wages were lower than at present. Then the mills were filled with labor from the surrounding country and from a farm population for New England then was a farming country. But the mills absorbed much of this farm operative labor, and in proportion as manufacturing industries multiplied farming interests were lessened, as well-paid wages in factories were found preferable to the plow or dairy or household drudgery in country life. The home market, exhausted to meet the demands for more operative labor, the spinners were compelled to look abroad, and first came a supply from beyond the Atlantic, but latterly, increased supply comes in a horde of Kanucks from beyond the St. Lawrence. To enable these people to live a larger expenditure for food, clothing and housing is necessary than at the South. This is one point of vantage ground the South will forever hold. It was given her by the great Creator. As a result of this recent visita-

tion, certain suggestions have been made that national legislation should be had to regulate and fix the hours of labor over the entire Union. If such enactment was made it would not change the situation one iota, as the South would still enjoy its natural advantages. In fact, there is but one way to change the status in this respect, and that is to have the axis of the earth changed and make the seasons equal in both sections.

The present labor of the South is homogeneous and fresh from the farms. It is docile and tractable. A good supply, and more than a supply for present wants, is at hand, and from the rapid increase usual with this population it will take years to create more demand for it than can be supplied. The withdrawal of this labor from the farms and cotton-fields will but serve to improve the country, as our farm population is now in excess of that necessary to produce as much of our staple crops, especially cotton, rice, tobacco and grain, as we can consume or sell at remunerative prices. Indeed, the production of our staple crops for the last few years has outstripped the demand, and our soils are so well capable of meeting all demands of them that we can not only keep pace with demands for the staple cotton, rice, grain and tobacco, but also make all farm products in addition such as our manufacturing population will consume.

It has been recently asserted that the present white labor supply for cotton mills at the South will soon be exhausted. Should such be the fact there need then be no necessity to draw labor from the pauper hordes of Europe or the Canadian provinces, and it may be here remarked that Eastern labor will not likely be tempted to move to Southern mills. This labor has been educated to higher wages than is, can or will soon be paid in our mills. These Eastern operatives live in better houses, wear finer clothes and are rather too æsthetic in their tastes to come down to hard pan where those of their fellowmen, reared at the South, are toiling for a livelihood in blissful ignorance of the follies and vanities their brethren in the East indulge in.

Should the multiplication of mills at the South exhaust the white-labor supply, why not look to the 10,000,000 colored people who will then be here, and, raising the whites to higher grade of wages in mills producing finer fabrics, give the colored race a chance to come in behind on mills making coarse goods at a lower rate of wages? In the end, and before many years, this will be the result, and the colored race will supply ample labor to fill all the mills that can ever be built, unless we can spin more cotton than we now or can then produce within our borders. How many there are who think erroneously that colored labor cannot be advantageously employed in cotton mills. Does not a similar inferior race, if you call them such, both spin and weave the finer fabrics of the East? Pray, where do India muslins come from? It may be wondered whether that colored man and brother, the member from Boston, one of the Massachusetts legislative committee, did not have the sagacity to see this chance for the future of his race at the South by thus elevating the more intelligent portion of them from field and menial labor into more intelligent operative labor in factories.

Philanthropic persons in the East have contributed money without stint during the last thirty years to educate these colored people, all of which the writer admits was praiseworthy. These contributions latterly have been used for higher education. The truth is, when this race has a sufficient number educated to fill their pulpits and teachers' desks, the other educated part must needs be fish out of water and drones, as there are no fields promising success open to them.

Now, if these kind philanthropists would

aid the colored brother's advancement, let them either build for him or aid him to build mills to be run with labor from his own race exclusively. If the first plan was adopted, the pious bread cast on the waters would pay a better percentage of profits than most cotton mills in the East now do. Better convert some of the colleges into industrial or textile schools for this race.

When Southern mills no longer have a home supply of labor, then comes the time for the colored race to open cotton mills to them, but never either attempt to mix them in mills or to have colored mills in the same town or near white mills. When this time comes, as come it will, the labor unions of the whites and the vagabond of a walking-delegate's mission on earth will be ended, as when this class must needs strike, the colored labor will be standing at hand ready to occupy their places. In this rivalry in the cotton manufacturing line, which is most certainly springing up between the Northeast and the Southeast, no ill or sectional feeling should be engendered. It is one common country, and in the future should any convulsions of a revolutionary nature occur, all east of the Appalachian mountains will be bound together by one common bond—self and the same interest.

The East with its present enormous capital and establishments may be generous, and should not look down with contempt on its infant rival. But the Southeast must and will toil on, and in the main must depend on her own resources and build up her own establishments, and while any contributions to our capital from outside would be always thankfully received and materially aid and advance us, we must depend in the main on ourselves. Let it be understood that the chimerical idea of New England's great mills being moved South is supremely ridiculous and not to be entertained by any sane man for a moment. Should the Southern mills, as they now bid fair to do, outstrip these Eastern mills for a series of years in the line of net profits, no new mills may, in the course of time, be built in the East, but those now there will be operated as long as they continue to pay even a small percentage of profit on the capital invested in them, and so redundant is capital in the East that this percentage may be very small indeed.

The South if she succeeds, and everything now points to fabulous success, must emphatically depend on herself and her natural resources and on her ability to generate sufficient capital needed to build her own mills. In the olden time she generated capital by the thousand millions to be invested in slaves and lands, to make more money to be invested in more slaves and lands. She once purchased her slaves from the East or Eastern skippers. Machinery for cotton spinning and weaving New England now stands ready and willing to sell to our people, and these *machine slaves*, unlike those of human flesh and blood in bondage, are more profitable servants than were our slaves of the olden time. All of this machinery is now made in the East, for which there is no good reason. The time is speedily coming when establishments for making the same will spring up in our midst. Cheap iron and coal, cheap labor and cheap living, together with a constant and most certainly a rapidly-increasing and accelerated demand for such machinery, even now point this section out as a proper place for such enterprises. Personally I do not believe that every portion of the cotton belt is peculiarly adapted to cotton manufacturing. The belt on which factories have met with unparalleled success, and will continue to succeed, is a parallelogram bounded on the northeast by the James river, southeast by a line running from Richmond via Weldon, Fayetteville, Columbia, Augusta to Columbus, Ga., and thence up the river to Rome, and thence on the northwest by

the Blue Ridge, an area of near 60,000 square miles.

The pioneers of this great industry are to be found on the territory mapped out. So far they have met with more than gratifying success. They are cool, level-headed working men, and will remain in the race to a finish, and they are there to win in the end.

JOHN L. BLACK.

BUILDING NEW MILLS

And Extending Old Mills at a Rapid Rate.

The activity in the extension of the cotton-mill industry of the South can best be illustrated by the following list of enlargements of mills now in operation, of new mills under construction and of companies that have been organized for building mills. In addition to this list there are many other projected companies, many of which will unquestionably build, but which have not yet proceeded sufficiently far to justify an insertion in this list. Of the spindles in the following list which can be counted upon with absolute certainty, there are over 500,000, involving an investment in extensions of old mills and in new mills of about \$12,000,000.

- Abbeville, S. C., A. W. Smith et al., 15,000 spindles, organized, and state will build within two years.
- Alabama City, Ala., Dwight Manufacturing Co., of Chicopee, Mass., 25,000 spindles, now building at cost of \$500,000.
- Atlanta, Ga., Exposition Cotton Mills, adding 16,000 spindles, 500 looms.
- Atlanta, Ga., Fulton Bag and Cotton Mills, adding 25,000 spindles, additional mill.
- Atlanta, Ga., Whittier Cotton Mill, of Lowell, Mass., 10,000 spindles, to build at once a \$200,000 plant.
- Augusta, Ga., Isaetta Mills, \$25,000 capital stock, to put Algernon Mill in operation.
- Augusta, Ga., Sutherland Manufacturing Co., \$35,000 capital stock, incorporated to manufacture cotton, etc.
- Bath, S. C., Aiken Manufacturing Co., 20,000 spindles, \$400,000 capital stock, now building.
- Belton, Texas (stock company), \$50,000 subscribed.
- Blacksburg, S. C., Cherokee Falls Manufacturing Co., 6600 spindles, 160 looms, building to replace burned plant.
- Cedartown, Ga., Cedartown Cotton Manufacturing Co., \$18,000 capital stock, new machinery, etc., being added.
- Central, S. C., Norris Cotton Mills, 10,000 spindles, organized, \$70,000 subscribed.
- Charlotte, N. C., Atherton Cotton Mill, added 5000 spindles.
- Charlotte, N. C., Charlotte Oil & Fertilizer Co., to manufacture batting, building now being erected.
- Charlotte, N. C., Highland Park Manufacturing Co., adding 10,000 spindles.
- Clemson College, S. C., Calhoun Cotton Mills, \$50,000 capital stock, incorporated.
- Clifton, S. C., Clifton Manufacturing Co., to add 18,000 spindles, 600 looms.
- Columbia, S. C., Columbia Mills Co., adding 10,000 spindles.
- Columbus, Ga., Hamburger Cotton Mills, adding 3000 spindles.
- Columbia, S. C., Richlands Mill Co., 10,000 spindles, 550 looms, \$250,000 capital stock, building.
- Concord, N. C., Cabarrus Cotton Mill, adding \$30,000 of new machinery.
- Concord, N. C., J. M. & W. R. Odell, adding 3000 spindles.
- Concord, N. C., Odell Manufacturing Co., adding 200 looms.
- Cowpens, S. C., Cowpens Manufacturing Co., adding 40 looms.
- Cullman, Ala., Cullman Cotton Mill Co., \$50,000 company organized.
- Dalton, Ga., Crown Cotton Mills, adding 5000 spindles.
- Davidson College, N. C., Cornelius Cotton Mills, will add looms.
- Davidson College, N. C., Linden Manufacturing Co., new machinery.
- Edgefield, S. C., Edgefield Cotton Manufacturing Co., 15,000 spindles, 400 looms, \$100,000 capital stock, bids now solicited for building.
- Elberton, Ga., Swift Cotton Mills, adding 2000 spindles.
- Elizabeth City, N. C., Oscar McMullen et al., \$76,000 subscribed for new company.
- Elkin, N. C., Chatham Manufacturing Co., 5000 spindles, \$45,000 capital stock, erect building now, put in additional machinery in '96.
- Emerson, Ga., D. P. Morris, et al., to equip mill at once.
- Fort Mill, S. C., Fort Mill Manufacturing Co., adding 5200 spindles.
- Franklinville, N. C., Randolph Manufacturing Co., adding 1700 spindles, 56 looms.
- Franklinton, N. C., Sterling Cotton Mill Co., \$50,000 capital stock, order placed for mill.
- Gaffney, S. C., Gaffney Manufacturing Co., adding 25,000 spindles or more, 700 looms, now erecting new mill.
- Greenville, S. C., American Spinning Co., \$125,000 capital stock, building.
- Greenville, S. C., Economy Cotton Mills Co., \$50,000 capital stock, chartered.
- Greenville, S. C., F. W. Poe Manufacturing Co., 10,000 spindles, building.
- Greenwood, S. C., Greenwood Cotton Mill Co., adding 5000 spindles, 108 looms.
- Greenville, S. C., Huguenot Mills, adding 25 looms.
- Greenville, S. C., Mills Manufacturing Co., 10,000 spindles, \$100,000 capital stock, lately incorporated.
- Griffin, Ga., Griffin Manufacturing Co., adding 5000 spindles, 200 looms, additional to cost \$125,000.
- Hampton, S. C., Hampton Cotton Mills, \$50,000 capital stock, incorporated.
- Henderson, Ky., Henderson Cotton Mills, adding 11,000 spindles, additional to cost \$100,000.
- Henrietta, N. C., Henrietta Mills, adding 20,000 spindles, new plant to cost about \$350,000.
- Hickory Grove, S. C., Collier Cotton Mills, \$100,000 capital stock, chartered.
- Hogansville, Ga., J. F. Mobley et al., \$200,000 company proposed.
- Irene, S. C., Saxe-Gotha Mill Co., 5000 spindles, 220 looms, \$50,000 capital stock, about to build.
- King's Mountain, N. C., Crowder Mountain Mill, adding 1500 spindles, 60 looms.
- King's Mountain, N. C., Enterprise Mill, adding 2500 spindles.
- La Fayette, Ala., East Alabama Land Agency, 5000 spindles, company being organized.
- La Grange, Ga., West Georgia Mills, organized \$200,000 company.
- Lancaster, S. C., Lancaster Cotton Mills, 10,000 spindles, \$150,000 capital stock, incorporated.
- Langley, S. C., Langley Manufacturing Co., adding 12,000 spindles, 350 looms, also new building.
- Lattimore, N. C., DePriest Bros., 6000 spindles, \$100,000 capital stock, will organize company.
- Laurens, S. C., Laurens Cotton Mill, \$200,000 capital stock, company being organized, over one-half subscribed.
- Lincolnton, N. C., J. A. Abernethy et al., 5000 spindles, mills now being erected.
- Maiden, N. C., Union Cotton Mills, adding 3000 spindles.
- Morganton, N. C., Attacoe Cotton Mills.
- New Orleans, La., Maginnis Cotton Mills, 150 looms being added.
- Owensboro, Ky., Owensboro Woolen Mills Co., 30 looms being added.
- Pelzer, S. C., Pelzer Manufacturing Co., adding 50,000 spindles, now erecting mill No. 4.
- Piedmont, S. C., Piedmont Manufacturing Co., adding 5000 spindles.
- Prattville, Ala., W. T. Northington, 20,000 spindles, arrangements completed for building.
- Prosperity, S. C., Prosperity Mill, organized \$50,000 company.
- Raleigh, N. C., Caraleigh Cotton Mills, adding 3000 spindles, 100 looms.
- Raleigh, N. C., Raleigh Hosiery Yarn Mill, adding 8500 spindles.
- Rock Hill, S. C., Eagle Mills, \$100,000 capital stock.
- Rock Hill, S. C., R. T. Fewell et al., \$100,000 company now being organized.
- Rockingham, N. C., Midway Mills, adding 3000 spindles.
- Rockingham, N. C., Steele's Mill, 10,000 spindles, 500 looms, building.
- Rome, Ga., Massachusetts Cotton Mills, of Lowell, Mass., 30,000 spindles, 1200 looms, \$600,000 capital stock, building mill to cost \$600,000.
- Rutherfordton, N. C., L. F. Morrow et al., organizing company.
- Salem, N. C., South Side Manufacturing Co., 5000 spindles, company organized.
- Salisbury, N. C., J. Littman, twine and cord manufacturing.
- Selma, Ala., Selma Cotton Mill Co., \$100,000 capital, \$100,000 company now being organized.
- Siler City, N. C., Hadley, Peoples & Co., will build.
- Spartanburg, S. C., the Spartan Mill, 30,000 spindles, \$500,000 capital stock, additional mill to be built.
- Stice's Shoal, N. C., A. C. Miller, of Shelby, et al., will organize \$200,000 company.
- Stubbs, N. C., P. C. Bean, 3000 spindles, building now being erected.
- Sumter, S. C., Sumter Manufacturing Co., \$100,000 capital stock, bids now solicited.
- Tuscaloosa, Ala., J. Snow Hardware Co., 2100 spindles, to be equipped at once.
- Union, S. C., Union Cotton Mill Co., adding 10,762 spindles, 350 looms.
- Walhalla, S. C., Walhalla Cotton Mills, 10,000 spindles, \$100,000 capital stock, over \$50,000 subscribed and company organized.
- Walterboro, S. C., Colleton Cotton Mills, \$100,000 company proposed.
- Weldon, N. C., Roanoke Mills Co., adding 30,000 spindles, company being organized.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

THE FUTURE SITUS OF COTTON MANUFACTURING

Mr. Edward Atkinson, the distinguished political economist, in an elaborate report made on cotton manufacturing for the census of 1880, pointed out the advantages of Massachusetts for cotton manufacturing over those of Great Britain. After covering with great care the cost of shipment, such as freight, local charges, etc., from the South to Lowell, and contrasting these expenses with those paid by Lancashire mills, showing an average of nearly \$3.50 per bale in favor of the New England mill over the mill in Great Britain, he added:

"It may be said that this proves too much, and that the cotton spinners of the Southern States will have the same relative advantage over New England. Let this be freely admitted. We are treating the question of the future supremacy of the United States in the manufacture, as well as in the growth of cotton, and if the future changes in population, wealth and the condition of the different sections of this country shall in the future cause the increase of spindles, especially in coarse fabrics, to be placed in the healthy hill country of Northern Georgia, Eastern Tennessee and the Carolinas, it will simply be the greater evidence that natural laws are paramount. If Georgia and the Carolinas have twice the advantage over Lancashire that New England now possesses, it will only be the fault of the people of these States if they do not reap the benefit of it." It was of this Piedmont region that the late Hon. William D. Kelley, of Pennsylvania, once said:

"It is the most glorious land upon which my feet or eyes have ever rested."

THE FUTURE SITUS OF COTTON MANUFACTURING.

Drawing a line from Lynchburg, Va., southwestward along the foothills of the Blue Ridge mountains, stretching past Rutherfordton, Charlotte and Rome, Ga., to Gadsden, thence southeastwardly through Eufaula, Ala., to Albany, Ga., thence northward on a straight line from Albany to Norfolk and back to the starting point at Lynchburg, we have marked out the future situs of the cotton-manufacturing of the South, and that means, so far as human foresight can predict, the future situs of cotton manufacturing of the world. This territory is, roughly speaking, about 500 miles long by 100 to 150 miles wide, and covers an area of from 50,000 to 60,000 square miles. It has advantages for cotton manufacturing unequalled by any other country of the world. Briefly, some of these advantages may be enumerated:

1. Elevation above sea level.
2. Abundant and cheap water-power and coal.
3. An abundant supply of native American operatives.
4. Low labor cost because of low cost of living.
5. Unsurpassed healthfulness.
6. Cotton supply immediately at hand.
7. Cheap and abundant transportation to the markets of the world.

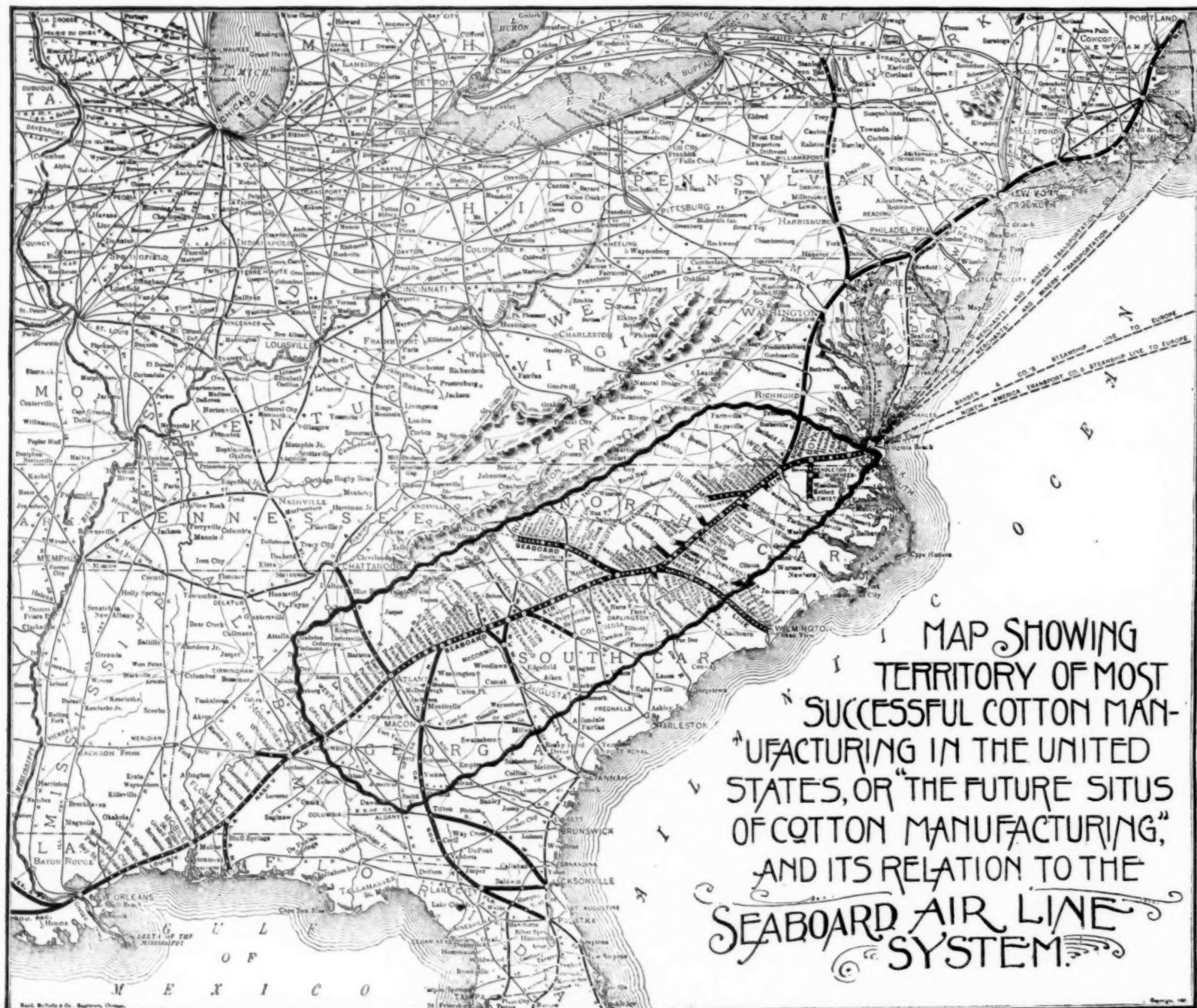
This favored belt of country is mainly

what is known as the Piedmont slope. At its southeastern boundary it has running at the foot of the falls of the rivers an elevation of about 450 to 500 feet above sea level, and along a line running through its centre from northeast to southwest an average of 700 to 800 feet elevation, while nearer to the foothills of the mountains it rises to from 1000 to 1500 feet above the sea. Nearly all of the area of this belt is of primitive or volcanic formation, with gneiss and granitic ranges from which come the best of building and foundation stone, which is nearly everywhere in this territory to be had in abundance and at but little cost other than that of quarrying.

This belt of country is moderately undulating, hilly and rolling, with but few outlying mountains, as the great Blue Ridge mountain range runs to the northwest and parallel with it. It is noted for its healthfulness. It is well supplied with pure water from abundant mountain springs and rapid rivers, has an equable climate, neither too cold nor too warm, and an atmosphere unrivalled for cotton spinning. In much of this area but little artificial heat is necessary for spinning rooms, and this only from November to April, and for this reason the operatives can be housed and kept warm in the cold months at one-half the cost in New England. Its summer climate, contrary to the supposition of many New England people who have never visited this region during midsummer, is one of its greatest charms. It lacks the sultry enervating heat of the Northern States, and, on the contrary, has a bracing air and cool

nights that always afford refreshing sleep.

Studying the map, one will note the James, the Roanoke, the Tar, the Neuse, the Cape Fear, the Peebles, the Wateree, the Congaree, the Savannah, the Ogeechee, the Oconee, the Ocmulgee, the Flint and the Chattahoochee rivers with their tributaries and branches crossing this belt from their mountain sources, flowing towards the Atlantic and the gulf. The aggregate powers easily available and at small cost furnished by these rivers is estimated to be several million horse-power. As this belt is free from severe winters, ice obstructions are unknown, and floods are rarely troublesome. Nearly all of these streams have their origin in the foothills of the mountains, are never-failing and suffer little from drouths in summer, as the rainfall of this belt is uniform and seldom fails. But it is not to water-powers alone that this cotton-spinning belt will owe its supremacy. It can more than compete in cheap steam-power with either New England or Old England. It is now abundantly supplied with coal from the Pocahontas district on the north, and the Alabama coal regions on the south. For some years a moderate amount of coal has been mined not far from Raleigh, N. C., immediately along the Seaboard Air Line. The quality of the coal is reported by those who have used it as equal to Pocahontas. Recently Pennsylvanian and Western coal-mining people have secured large interests in this territory, and are now preparing to operate these mines on a very extensive scale. Careful scientific reports made within the last few months show that from what is



known as the Egypt coalfield, about forty miles from Raleigh, 350,000 tons of coal a year can readily be put out. As this coal can be mined at a low cost, and as it is immediately in the heart of the cotton growing and cotton manufacturing region, its development means a great decrease in the cost of coal to all Carolina manufacturing enterprises.

A large number of New England cotton-mill people, including such noted manufacturers as Mr. William C. Lovering, president of the Arkwright Club; Mr. Thomas Motley, of the Chicopee, Saratoga and Vickery Mills; Mr. C. W. Amory, of the Amory and Amoskeag Mill; Mr. Henry C. Howe, of Lawrence & Co.; Mr. Arthur Amory, of the Jackson and Nashua Mills; Mr. O. H. Sampson and others, recently made a tour of this territory over the Seaboard Air Line system. These people went South to study the conditions of cotton manufacturing, but more especially to study the question of the character and supply of operatives. Referring to this question of operatives, as based on the investigations made by these people, the editor of the MANUFACTURERS' RECORD, who was on this trip, in the issue of that paper of May 17 said:

SOUTHERN VS. NEW ENGLAND MILL OPERATIVES.

"New England papers and many New England people have always taken the ground that the South could not compete with their section in the manufacture of fine goods because of its labor. Their one great hobby has been the superiority of New England mill help to Southern help. It is quite amusing in view of these facts to see the revelation which comes to our New England friends when they go South and investigate Southern cotton mills for themselves. The writer recently had the pleasure of visiting a large number of Southern mills in company with half a dozen of the most prominent mill-owners of New England. The one subject of greatest interest to them—greater than nearness to the cotton-fields, greater than cheap coal, excellent water-powers or freedom from taxes—was the superior character, the quickness and the inherent adaptability to cotton manufacturing displayed by the cotton-mill people. These New England investigators freely admitted the superior character of Southern mill help. They admitted that it was superior to anything now found in the mills of New England, stating that fifty years ago, when New England had the native American girls as mill operatives, their help was of the same character that the South now has. Now, however, the South has the native American, but New England has mainly the foreign element in its mills. 'To say that New England cotton-mill help is superior to the South's is simply saying that the lower classes of foreigners are superior to the native Anglo Saxon American'—is about the way it was expressed.

"This revelation in regard to the excellence and the abundant supply of mill help is having great influence in turning the attention of New England people to the South. At last even some of the New England papers are beginning to admit it. The Boston Commercial Bulletin, one of the most conservative textile papers of that section, in its editorial discussing labor in Southern mills, says:

"In an inspection of Southern cotton mills nothing strikes the Northern manufacturer more forcibly than the character of the help in the Piedmont region. The observer is attracted by the size, clear complexion and general appearance of the operatives, which is in marked contrast to that of the heterogeneous foreign horde which fills the spinning and weaving rooms of the Northern mill.

"The race is of native American stock, hardly from generations of hill and mountain life. They are of the small farmer or

crofter class, and, though sadly deficient in the science of letters, they are naturally intelligent and quickly respond to instruction. They bring down the spirit of independence from the hills, and require to be treated with less brusqueness than is commonly employed by overseers. They are interested in their work, and suggestions are met with a willing compliance in contrast with the surly acquiescence of the help with which we are familiar. * * * The labor agitation is distinctly frowned upon, and the independent character of the help is not favorable to the trade-union idea. Then the sentiment of the citizens is so pronounced for the development of manufacturing industries that no legislation that will hamper the movement will be favored."

"When once the statements made by the Commercial Bulletin, which are known to every Southern man, are fully appreciated and accepted by the manufacturers of New England, the tendency of cotton-mill business in this section will receive a great impetus."

An examination of the census reports of this cotton-manufacturing belt shows that the whites in this district outnumber the colored population. It is well known to persons familiar with the South that a vast majority of the white people of this region are and always have been working people. Coming from a rural farm population, these people make the very best of mill operatives; simple in their habits, and accustomed to live plainly and dress inexpensively, it costs them less to live, and consequently they cost their employers less than the operatives of New England by from 25 to 50 per cent. In this milder climate, with less cost for fuel, less cost for wearing apparel, and house rent lower, the operatives can well afford to work at a much lower price than in New England, and still save more money from their earnings than the New England operatives. They are as a class as happy and as well contented with their earnings and with their lot in life as employees in any line of manufacturing in the world. They are quick to learn and quick in developing more and more skill as the production of cotton goods goes on from the coarser grades to the finer.

This labor market is abundantly stocked, and all of the mills secure a full supply without trouble. There can be no scarcity of labor in Southern cotton mills for many years to come. There are thousands of mountain people and small farmers whose families are anxious for the opportunity to secure employment in the cotton mills.

COTTON SUPPLY.

In this cotton belt we find the very best grades of upland cotton. Moreover, the shipping facilities are so good that when desired gulf cotton can be readily and cheaply brought to the mills in this territory, thus furnishing the opportunity for any variety of staple that may be desired.

GROWTH ALONG THE SEABOARD AIR LINE SYSTEM.

Stretching from Norfolk to Atlanta in almost an air line, the Seaboard Air Line system runs through the very heart and centre of this entire territory—"the future situs of cotton-manufacturing." Its branch lines bisect it, stretching from Wilmington on the coast to the mountains at Rutherfordton, and with its many connections covering almost this entire territory. From Norfolk, one of the leading cotton markets of the world, handling over 500,000 bales a year, where cotton manufacturing has proved very profitable, the Seaboard system passes through Suffolk, thence to Weldon, where over 20,000 horse-power is being developed for cotton-mill purposes, and where two extensive mills are to be constructed, on through Henderson, Durham, Raleigh, Sanford, Hamlet, Charlotte, Columbia, Greenwood, Abbeville, to At-

lanta, the territory traversed by this great system presents to cotton manufacturers of the world facilities for manufacturing unequalled by any other section.

The remarkable growth of cotton manufacturing along this line, and the phenomenal success of the mills that have been established for years, demonstrate that in every requirement this territory has marked advantages. A list of the more important cotton mills located along this road shows the following substantial proof of these statements:

LIST OF COTTON MILLS ON THE SEABOARD AIR LINE.

Location.	Mill.	Looms	Spindles.	Capital.
Wadesboro, N. C.	Wadesboro	4,031	8,000	\$100,000
Monroe, N. C.	Monroe	7,000	150,000	100,000
Wilmington, N. C.	Wilmington	226	1,856	150,000
Maxton, N. C.	Maxton	7,900	125,000	100,000
Charlotte, N. C.	Ada Manufacturing Co.	10,000	100,000	100,000
Charlotte, N. C.	Alpha	1,000	131,000	100,000
Charlotte, N. C.	Atherton	18,300	150,000	100,000
Charlotte, N. C.	Charlotte	200	2,740	100,000
Charlotte, N. C.	Victor	2,800	25,000	100,000
Charlotte, N. C.	J. H. Crowley	2,700	110,000	100,000
Charlotte, N. C.	Mt. Holly	7,000	50,000	100,000
Charlotte, N. C.	Mt. Holly	1,300	50,000	100,000
Charlotte, N. C.	Mt. Holly	6,800	100,000	100,000
Lincolnton, N. C.	Elm Grove	1,000	60,000	100,000
Lincolnton, N. C.	Laboratory	1,000	50,000	100,000
Lincolnton, N. C.	Willow Brook	4,500	50,000	100,000
Shelby, N. C.	Belmont	4,400	20,000	100,000
Shelby, N. C.	Laura Glenn	2,100	1,600	100,000
Stanley Creek	Stanley Creek	401	5,000	100,000
Chester, S. C.	Chester	3,000	43,000	100,000
Chester, S. C.	Greenwood	13,000	750,000	100,000
Sumter, S. C.	Sumter	6,000	100,000	100,000
Columbia, S. C.	Columbia	125	6,000	100,000
Portsmouth, Va.	Portsmouth	350	10,000	125,000
Elberton, Ga.	Swift	100	3,850	65,000
Athens, Ga.	Athens	60	7,500	100,000
Athens, Ga.	Princeton Manufacturing Co.	470	16,000	500,000
Athens, Ga.	Star Thread Co.	500	17,000	300,000
Atlanta, Ga.	Exposition	503	13,748	250,000
Atlanta, Ga.	Fulton Bagging Co.	360	6,400	100,000
Durham, N. C.	Commonwealth	26	12,584	150,000
Durham, N. C.	Erwin	276	7,600	150,000
Durham, N. C.	Pearl	125	2,570	125,000
Durham, N. C.	Durham	4,000	50,000	100,000
Raleigh, N. C.	Raleigh	4,300	150,000	100,000
Raleigh, N. C.	Pilot	2,000	40,000	100,000
Raleigh, N. C.	Falls of Neuse	5,000	125,000	100,000
Rockingham, N. C.	Great Falls	300	6,072	125,000
Rockingham, N. C.	Ledbetter	250	5,000	125,000
Rockingham, N. C.	Midway	23,000	700,000	100,000
Rockingham, N. C.	Pedee	2,240	20,000	100,000
Rockingham, N. C.	Robertell	2,100	10,000	150,000
Henrietta, N. C.	Henrietta			
Norfolk, Va.	Lowenberg Knitting Co.			
Norfolk, Va.	Norfolk Knitting Mills			
Norfolk, Va.	Elizabeth Knitting Mills			

In addition to the foregoing list of mills in operation along the Seaboard Air Line, the following list is given of additions that are now being made to the equipment of established mills, and of new mills under construction or upon which work will be commenced within a few weeks:

LIST OF COTTON MILLS BEING ENLARGED OR NEW MILLS ON SEABOARD AIR LINE.

Location.	Mill.	Looms	Spindles.	Capital.
Atlanta, Ga.	Exposition	500	16,000	10,000
Atlanta, Ga.	Whittier of Low		25,000	5,000
Atlanta, Ga.	Fulton Bagging Mill	174	5,000	50,000
Atlanta, Ga.	D. P. Morris and others	625		50,000
Durham, N. C.	Erwin Mill	360	6,400	100,000
Franklin, N. C.	Sterling Mill	1,200	30,000	500,000
Weldon, N. C.	Roanoke Mills Co.		85,000	
Weldon, N. C.	United Industrial Co. (knitting mill)		10,000	
Raleigh, N. C.	Raleigh Hosiery Mill		5,000	
Rockingham, N. C.	Steels Mill		20,000	
Lincolnton, N. C.	I. A. Abernathy		10,000	
Henrietta, N. C.	Henrietta Mills		6,000	
Charlotte, N. C.	Highland Park Co.		100,000	
Lattimore, N. C.	DePriest Bros.		3,000	
Shelby, N. C.	J. C. Carson and others		15,000	
Raleigh, N. C.	Caraleigh Mill		10,000	
Abbeville, S. C.	A. W. Smith and others			
Columbia, S. C.	Richland Mill Co.			

The mills in operation represent a total of over 325,000 spindles and an aggregate investment of over \$6,000,000. The Norfolk knitting mills, of which there are quite a number, have been remarkably successful. Charlotte has become one of the noted cotton-manufacturing points of the South, now having eight mills in operation, all noted as being successful. Durham's mills have steadily increased their capacity out of earnings, and at present large extensions are being made. The Henrietta Mill, the largest mill in North Carolina, which now has 23,000 spindles, is building a new mill which when completed will give this company a total of about 50,000 spindles, with a capital of \$750,000. At Raleigh, the capital of the State, there are four mills in profitable operation, all of them increasing their capacity from year to year. Rockingham has long been noted as

a thriving, prosperous cotton-manufacturing point, and the four mills now in operation there are to be increased by the building of a new mill of 10,000 spindles, upon which work has already been commenced. Columbia, with its magnificent water-power developed by the State of South Carolina and the city of Columbia at an outlay of about \$1,000,000, securing thereby an aggregate power of about 12,000 horse-power, has the great Columbia duck mill, a \$750,000 company producing what is said to be the finest duck made in the United

States. This company is composed almost wholly of New England and Baltimore capitalists, and so successful have been its operations that last week the stockholders decided to add 10,000 more spindles. Columbia is also building a 10,000-spindle mill to make very fine goods such as the

"Fruit of the Loom." Athens has three mills with over 20,000 spindles, while Atlanta has four mills having about 50,000 spindles, while over 56,000 spindles are to be added in new mills and enlargements of old ones.

In addition to the 325,000 spindles now in operation along the Seaboard Line, about 160,000 spindles are to be added in the shape of new mills under construction or definitely decided upon or in the enlargement of established mills. Thus by the end of 1895 there will be about 450,000 to 500,000 spindles in operation immediately on the line of this system. Many other mills are projected; a number of them have already progressed sufficiently far to justify the organization of companies, and quite a number of enlargements of old mills will be made in addition to those given in the foregoing list, but there are

inviting locations and thousands of operatives awaiting the building of more mills than are now in existence on this system.

WATER AND STEAM POWER.

Many successful cotton manufacturers prefer steam to water power, and so the question of the relative advantage of steam or water for manufacturing has been much discussed. Fortunate, however, is the territory through which the Seaboard system runs, in that it can meet the wishes of those who prefer steam-power, and likewise those who want water-power. Crossing all of the rivers that flow from the mountains to the sea in the 500 miles of

This has been shown by surveys made a few years ago.

In order that the readers of this issue of the MANUFACTURERS' RECORD may understand the great number of small and easily-developed water powers along the Seaboard system, because the extensive powers to which reference has already been made are generally known of, it may be well to give the following brief summary of powers immediately along this line, all of which can be utilized at a minimum cost:

Cornwall Shoals.—Located on north fork of Fishing creek, six miles north of railroad crossing. About thirty horse-power

of any kind, and large power can be easily developed.

Saluda River.—Boseman's mill, located on Saluda river, one-quarter of a mile south of railroad crossing. This power is not being used. This is a good factory site, and water-power admits of much development.

Long Cane Creek or Rapley's Shoals.—Located on Long Cane creek, two miles north of railroad crossing. This power has never been developed. It is equivalent to seventy-five horse-power and is a fine site for the location of a factory.

Douglas Mill.—Situated on Long Cane

long. Three hundred horse-power can be developed at this place.

Martin's Mill.—Located on Little river, six miles north of railroad crossing. Two hundred horse-power can easily be brought into use at this place.

Matlock's Mill at Cherokee Shoals.—Located on Savannah river, three miles of railroad crossing. Fall of eighteen feet. Power can be largely developed.

Glover Shoals.—Located on Savannah river one and one-half miles north of railroad crossing. These shoals are undeveloped, but power can be easily utilized. Two hundred or 300 horse-power can be gotten with small cost.

Beaver Dam Creek.—Old factory site, located on Beaver Dam creek, one mile south of railway line. Fall of seventeen feet. This is fine power.

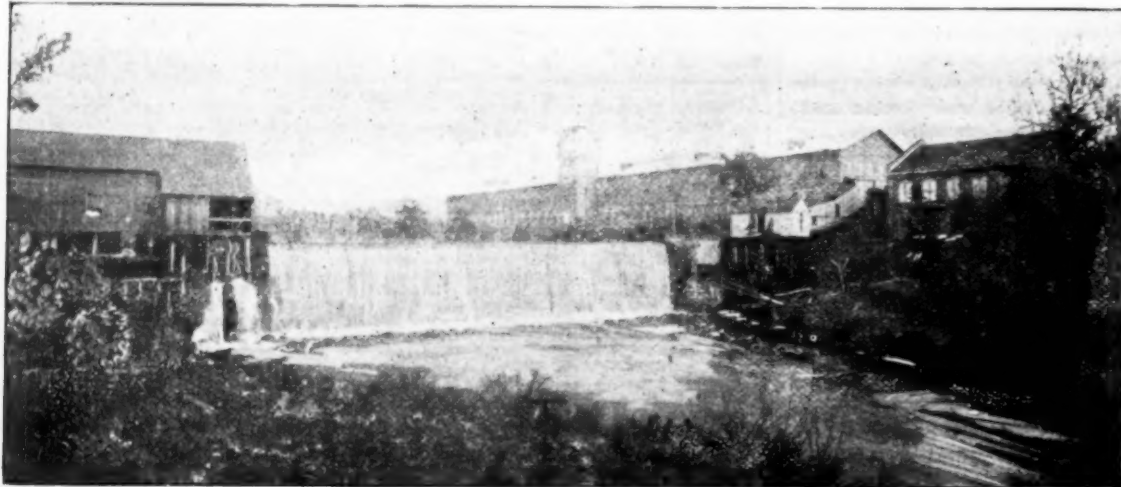
Adam's Mill.—Located on Beaver Dam creek, four miles north of railroad line and opposite to Elberton. Power can almost be indefinitely increased owing to the fall of the stream at this place.

Turner's Mill.—Located on Beaver Dam creek and one-quarter of a mile above Adam's Mill. Water falls twenty feet. Almost any desired water power can be developed at this place.

Brewer's Mill.—Located on Beaver Dam creek, one-half of a mile above Turner's mill. Fall of twenty feet. This power admits of development to a large degree.

North Broad River.—Pickett or Deadwyler shoals, located on North Broad river, and one mile south of railroad crossing. There is a solid rock bottom and low dam will develop large powers. The banks run up quickly and the water can be raised to great height with little cost of dam. There is a fall in the river at this place of twenty-five feet. There is an abundance of water in this stream, and 500 horse-power can be developed with a very low dam.

Deadwyler's Fish Trap Shoals.—Located on North Broad river, and two miles south of crossing of railroad line. This place



ROBERDEL COTTON MILLS, NEAR ROCKINGHAM, N. C., SEABOARD AIR LINE.

territory from Virginia to Atlanta, and again striking many of the mountain water-powers by its branch roads, this system reaches water-powers that in the aggregate would probably sum up at least 1,000,000 horse-power. At Weldon the Seaboard crosses the Roanoke river, where two large powers have been developed by different companies. At this point there is an extensive water-power immediately at the town, while three miles above is the Great Falls, where 7500 horse-power has already been developed. This can be more than doubled whenever the demand justifies it. An extensive knitting mill, to employ at the start 250 hands, so planned as to be quadrupled in size and to furnish employment for 1000 hands, is now under construction, while a \$500,000 company is being organized by New England and Southern people to construct a 30,000-spindle mill.

Many years ago, when internal improvements were the rage in the South, as well as in other sections, the State of North Carolina built three large dams near the village of Lockville, in Chatham county, mainly for the purpose of securing a canal for water transportation. This solid, substantial work, built at an enormous cost, is in almost perfect preservation. Here an aggregate of over 6000 horse-power is available, and this entire property is now in the market. On the Carolina Central division is found, in addition to many other powers, the High Shoals property, regarded by experts as one of the most valuable water-powers, because of its magnitude and the cheapness with which it can be utilized, in the South. At this point over 5000 horse-power can be secured, and at a very moderate expenditure. One of the most remarkable water-powers in the country is at Calhoun Falls, S. C., only one and a half miles from the Georgia, Carolina & Northern division of the Seaboard system. These falls extend for a distance of seven miles along the Savannah, and engineers have estimated that if the entire head of water were used, 180,000 horse-power could be utilized. A canal one and a half miles long, in connection with a dam, would secure 10,000 horse-power from the first section of these falls.

can now be used, and large power can be developed.

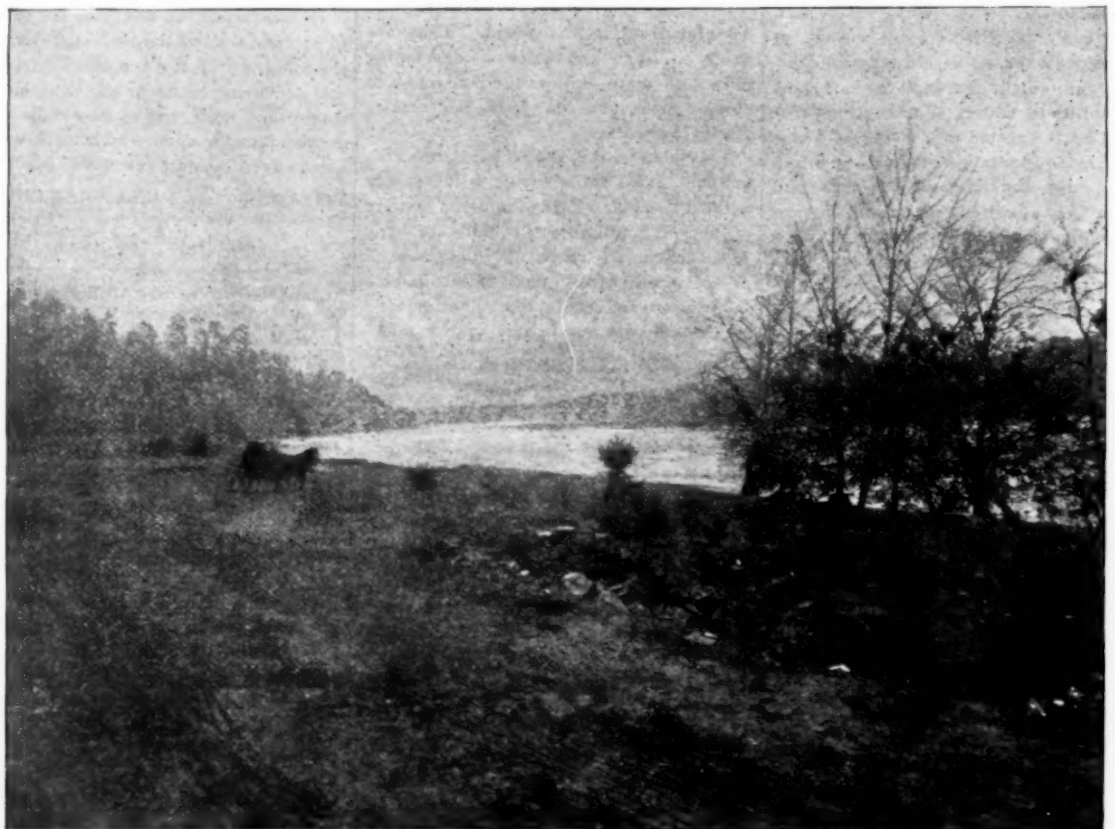
Fishing Creek Proper.—The dam at this place is eight feet high, and there is a fall of thirty-five feet. One hundred and fifty horse-power is now being utilized. The water-power at this place can be increased to 900 horse-power.

Sandy River.—McAlilly's mill, located on

creek, three miles north of railroad line. Power admits of great improvements.

Brook's Mill.—Located on Calhoun's creek, two miles south of Watt's station. Two rocks are now being run and power can be very much increased.

Little River.—Calhoun's mill, located on Little river, six miles south of railroad crossing. More than 100 horse-power can



CALHOUN FALLS, SOUTH CAROLINA, SEABOARD AIR LINE.

Dandy river, two miles south of Leeds, S. C. The hills are very close, and by building a good dam the power can be more than doubled.

Broad River, S. C.—Neal's shoals, located on Broad river, four miles north of railroad crossing. This is a good site for factories

now be used at a small expense. This power can be doubled. This stream is constant winter and summer. This is a good site for factories of any kind.

Trimble Shoals.—Located on Little river, two miles south of railroad crossing. These shoals extend more than a mile

has solid rock bottom and banks run up quickly, so that large power can be obtained with a low dam. A very low dam will give twenty feet fall. Five hundred horse-power can easily be developed. North Broad river always affords an abundance of water.

South Broad River.—Andrew's mill, located on South Broad river, one mile south of and opposite to Carlton. There is a succession of shoals for one-quarter of a mile, and any desired waterfall could be obtained.

Comer's Mill on South Broad River.—There is a fall of twenty-five feet, and could get twenty-five more fall. There is a solid rock bottom and the banks run up

A LOCATION FOR MANUFACTURERS.

The Advantages Possessed by the Town of Milton, N. C.—Abundant Power, Railroad Facilities, Excellent Situation.

Editor Manufacturers' Record:

The facilities offered by Milton, N. C., as a location for industries and as a point for the investment of capital in various

tic & Danville Railroad right at their doors, thus saving considerable in the way of drayage, etc. This fact makes the town especially desirable as a site for cotton mills and other plants requiring an abundance of cheap power. Milton, however, is fortunate enough to be in a position to secure coal and wood for fuel at a minimum of cost. Consequently, steam-power can be readily furnished if desired. The

such as prevails at Milton, has assisted in bringing about this fortunate state of affairs.

Railroads are necessary factors in encouraging manufacturing. Milton has two lines which afford it ample transportation facilities, with the seaboard (Norfolk, Va.) but six hours distant. The Atlantic & Danville Railroad, which passes through Milton, terminates at tidewater and furnishes an excellent route for shipping manufactured articles as well as agricultural products. It is also on the Milton & Sutherlin division of the Southern system, thus giving its people competitive rates for shipments.

But turning from the manufacturing to another side of the question, the town possesses also opportunities for engaging in the tobacco and other business which are well worth consideration. It is situated in the famous "bright tobacco belt," where a very fine quality of bright tobacco grows in abundance, commanding a high price in market. The section presents an excellent opportunity to engage in diversified agriculture, for the farmer finds the land will also produce largely of grain and vegetables as well as fruits, in addition to its special tobacco-growing qualities.

An industry of the town which furnishes an example of how factories flourish here is the Milton Mill Co. This company, with a capital stock paid in of \$20,000, recently built a flour mill. It now has more orders than it can fill and is now running on full time, turning out 1000 bushels of meal and 100 barrels of flour per day.

Anyone who desires to investigate personally will find the citizens of Milton eager to welcome newcomers and to offer them every facility for securing information. L. M. Warlick or John L. Irvine will give further details if desired.



FALLS ON DEEP RIVER AT LOCKVILLE, N. C., SEABOARD AIR LINE.

quickly, so that large power can be developed with slight cost.

Georgia Factory.—Located on the Oconee river and five and one-half miles south of Athens. The shoals are one-half of a mile in length; total fall about thirty feet, and thirty horse-power per one foot fall; total horse-power 900. Fine dam and a race one-half mile long.

Middle Oconee River.—Tallassee shoals, one and one-quarter miles long; total fall forty-three feet; total horse-power 1008. This power is not used. Good ground on either bank for raceway and mill building. Dam can be easily constructed on continuous rock edge.

Jennings Shoals.—Located on Middle Oconee river, one and one-half miles south of McLeroy's Mill; total fall eight feet; total horse-power 240. Not utilized.

Wallace's Mill.—Located on Peachtree creek. This mill is located just south of the railway line and just off the edge of the right-of-way. Fifty horse-power is now developed, and by raising the dam twelve feet, eighty horse-power could be developed.

WILL ENCOURAGE INDUSTRIES.

The management of the Seaboard Air Line system recognizes the fortunate combination of circumstances which furnishes so many opportunities to manufacturers and others along its route, and is carrying out a broad and liberal policy by offering them every inducement to locate in this section of the South. Having close connection with coastwise steamship lines to the North from its docks at Portsmouth, Va.; with its own line of steamers on the Chesapeake bay to Baltimore, with its all-rail connection line to the North by way of Washington, and by its Western connections, which give it the best of service to St. Louis and the great Northwest, the Seaboard affords the shipper an opportunity to place his goods in all the principal markets at low transportation rates and in the shortest possible time, while by means of direct line to Norfolk and Baltimore and to New York via its close ally, the Old Dominion Steamship Co., it can amply provide for shipments by vessel to any part of the world.

WORTHY OF INVESTIGATION.

In conclusion, we can only say that to manufacturers, merchants and business men of any class seeking a new field for operations, the territory traversed by the Seaboard Air Line is well worthy of the closest investigation. Mr. E. St. John, of Portsmouth, Va., vice-president, will take pleasure in corresponding with all inquirers.

ways commend themselves to the consideration of all interested in this matter. Geographically, the town is admirably located in the Piedmont section of North Carolina, and in a part of the State which is extremely healthy. The climate is not of the extremely warm temperature, which idea many people so often erroneously associate with the South. While the people escape the severity of the Northern winter, the

proximity of the raw material, for Milton is on the border of the Carolina cotton-fields, is another important item which manufacturers will appreciate, as it gives the buyer an opportunity to select the best staple and to avoid the extra charges of freight, commissions, etc., which play such an important part in adding to the first cost. The success of textile mills in this part of the South strikingly indicates its combination of ad-



ON SOUTH BROAD RIVER, GEORGIA, SEABOARD AIR LINE.

altitude and situation temper the heat to an agreeable degree in midsummer.

Only thirteen miles from Danville, in Southern Virginia, Milton is also located on the Dan river, which, owing to a fall of nearly ten feet at this point and to the formation of the stream, will develop a water-power estimated to be fully 5000 horse-power at a comparatively small expense. A strong point to which the attention of manufacturers is called is the fact that cotton mills and other industries utilizing this water-power will have the Atlan-

vantages as a locality for manufacturing. At Danville, which is but thirteen miles distant, for example, is one of the most prosperous mill communities in the country, while flourishing corporations also exist at Durham, Greensboro and other neighboring Carolina cities. To show what the Danville mills have accomplished, the reader will be interested in knowing that last year the four combined paid in dividends 29½ per cent., although the money invested in all represents a capital of \$1 800,000. An abundance of white labor,

One of the foremost cotton manufacturers of New England, a man of national reputation, lately said in private conversation:

"I would stake all that I have in the world upon my ability to manufacture just as fine goods in the South as are made now or ever will be made in New England."

A GREAT WATER POWER.

The Development of Roanoke Rapids, Near Weldon, N. C.

OVER 20,000 HORSE POWER AVAILABLE FOR MANUFACTURES.

The Roanoke river is a familiar stream to passengers going South by either of the great trunk lines from Washington to Norfolk. At Weldon, Halifax county, N. C., an opportunity is given to appreciate its size and rapid flow as the train passes over the extensive bridge built near that point. The casual observer might notice the extremely attractive country and the high hills on either side of the river, also the wooded islands and other features which would seem to make the locality a desirable spot for the student of the beautiful in nature. About six miles above the railroad bridge in question, where the topography of the

from this canal as between 7300 to 7500, the fall giving a head of 31 feet 5 inches by the most careful measurement.

At the head of the canal is a wall of masonry several hundred feet long, which is so well built that the stones seem to form practically one great rock. This wall is over six feet in width, and underneath are gateways and sluices sufficient to fill the canal in the shortest possible time. Above it begins the natural formation of islands, previously referred to, which is assisted by a dam running up and down stream from the masonry work noted to the first island in this formation. The second

be developed, the company has opportunities for acquiring more of a head of water by means of an auxiliary canal already constructed; also by extending its barrier system up stream, which can be done at a very small cost—less than \$2000—thus furnishing in all 20,000 horse-power.

The facilities for manufacturing have already attracted the attention of the United Industrial Co., of 120 Broadway, New York city, which has let the contract for the first mill to be established at this point. It is to be a knitting mill, built of brick, with heavy masonry foundation, two stories high and about 80x200 feet in dimensions. The plans are so arranged that the present structure can be enlarged to four times its capacity, or, in other words, quadrupled, which is the intention of the company. It will contain six sets of knitting machinery, and the officers of the company state that they expect to employ 250 hands at the outset. The contract for

poses to aid practical and worthy men of small means to connect themselves with its enterprises at Roanoke Rapids, and thus to enable them to share more fully in the fruits of their ability and labor.

It proposes to continue erecting knitting factories at this place until Roanoke Rapids becomes what it is so well adapted for, the centre of this class of manufacturing in the United States.

Another large enterprise is a cotton mill, for which plans have already been drawn by one of the most noted mill architectural firms in the country. The original plan was to form a \$200,000 stock company and put in about 12,000 spindles. The opportunities, however, for an unusually prosperous venture are attracting the attention of several extensive New England mill owners, who are very desirous of entering the corporation and taking a majority of the capital stock. It is expected that the company will be fully organized within a



DAM AT HEAD OF CANAL OF THE ROANOKE RAPIDS POWER CO.

country is such that the bank of the river is admirably suited for the sites of industrial plants, the river varies from three-fourths to over a mile in width, while a chain of islands diverts a large quantity of the water towards the southern bank of the stream in such a manner that nature has almost provided a water-power canal in itself. The accompanying engraving gives some idea of the magnitude of the water-power.

What is known as the Roanoke Rapids Power Co. acquired control of the riparian rights to this section of the Roanoke river several years ago, and for the past five years has been engaged on a project to develop its power, which is now practically completed. Generally described, it is a canal 4200 feet long, 90 feet wide on the surface of the water, 60 feet wide at the bottom, and of a capacity to contain 14 feet of water. Such is the grade that experts estimate the horse-power coming

dam is 1435 feet in length, and is massively and solidly built to withstand any amount of hydraulic pressure. Above it, at the head of the chain of islands noted, is still another dam, nearly an L in shape, and extending to another island. This dam presents possibly the most interesting feature of the engineering plan, as it diverts the greater portion of the water from the entire stream, at this point fully three-fourths of a mile wide, into an immense reservoir, as it might be termed. The Roanoke river is noted for its steady supply of water, and at all times of the year this reservoir, if it may be termed such, will supply at its ordinary depth enough water to fill the canal to its utmost capacity in power.

The opportunities given by this power are ample for the establishment of a dozen manufacturing plants employing from 500 to more than 1000 horse-power each, as, in addition to the present power which can

the building complete has been let to Messrs. Brown & Garber, Washington, D. C., and the foundations are now up. The 800 horse-power plant for the four factories is in complete operation. The necessary machinery has been ordered, and this mill will be in operation before September 1 of this year.

The United Industrial Co. was organized under the laws of the State of New York. Its officers are among the wealthiest and most broadly enterprising of New York's citizens. They have also had wide experience in manufacturing. This company decided, after a long and careful investigation of the South and other sections, that Roanoke Rapids combined more advantages for the manufacture of cotton than any other locality in the United States. The charter of this company permits it to take shares of the capital stock of other companies, and, having large means itself, it has perfected a plan by which it pro-

few weeks, and work will begin on the larger mill, which will be one of the most elaborate of its kind in the country.

The Roanoke Rapids Power Co. owns nearly 3000 acres of land mainly on the south side of the river, free of all incumbrances, which is beautifully located for residence purposes, as well as manufacturing sites. While the surface is quite rolling in its character, it lies in such a way as to give it an opportunity for extending avenues and streets throughout the whole tract and to give ample drainage for all purposes. The engineers have made the most of their opportunities, and have laid out the property in the most attractive manner. The work of constructing houses for mill operatives, and those who may desire to locate at Roanoke Rapids—for this is the name of the new manufacturing town—has begun, and at present nearly forty houses are completed and employment given to 250 men. These houses are

models of their kind, and it is safe to say that no manufacturing village in this country has tenements which are their equal in point of ornamental appearance, convenience and facilities for comfort. From a distance the rows of buildings remind one of suburban residences such as are seen near large cities. They are painted in colonial colors, and the colonial design has been followed to a certain extent by the architects, Messrs. McKim, Mead & White, of New York. Any one of them would be perfectly suitable for people in the highest walks of life, but the company very wisely believes that in arranging houses best adapted for the comfort of working people they are practically solving the labor problem, and homes are provided which are not only attractive to the eye, but healthful, comfortable and convenient, thus making the community much more contented than where comfort is wholly sacrificed to mere economy. Many thousand dollars have already been spent on these buildings, and while the amount is small in comparison with the number of elegant cottages erected, yet the low cost of building material and the cheapness of labor have reduced the cost for construction to a very low figure.

At this point a few of the advantages of Roanoke Rapids may be appropriately described. In the first place, building material can be secured at the lowest possible price. Building stone of an excellent quality for foundations and walls can be obtained on the grounds within a few hundred feet of any of the power sites. An excellent clay for making hard brick is to be found in depositories which are practically inexhaustible, also on the same land. Timber of all kinds, necessary in mill and house work, can be found here, as this region is noted for the quality and abundance of its various timbers, and is supplied from the mills of the company ready for use.

Investors in cotton mills will be interested in knowing that within a short distance and on these premises is grown an excellent quality of cotton adapted for a variety of cloths, and the annual production of Halifax, Northampton and adjacent counties is 121,000 bales. At Rocky Mount, only forty miles away, is one of the most prosperous, if not the most prosperous cotton mill in the South, which has been declaring dividends for a number of years past of considerably over 10 per cent. annually, besides acquiring a surplus fund, and this in spite of the fact that it uses steam as well as water-power, while at Roanoke Rapids steam would be entirely unnecessary. Within two miles of the canal, and upon these premises, are two extensive railroads—the Seaboard Air Line, one of the largest railroad systems of the South, with a seaport terminal at Portsmouth, Va., one of the finest harbors in the world, and with a direct line to Washington, N. C., on the seacoast; also to Atlanta, Ga. The main division of the Atlantic Coast Line passes through Weldon, and a spur is to be built from it to Roanoke Rapids at an early date. By the Atlantic Coast Line, as well as by the Seaboard Air Line, raw material can be brought from any locality desired, while manufactured products can be shipped all rail to New York by the way of Washington and Baltimore, or by vessel to any part of the United States or the world, with the advantage of competitive railroad rates in both securing material and shipping goods. Furthermore, Roanoke Rapids is practically independent of railroads. At a cost of a few thousand dollars the canal of the Roanoke Navigation Co., running past the factory sites on these premises to the Roanoke river at Weldon, can be utilized to form a navigable waterway to Norfolk. The United Industrial Co. is now using this canal to have its freight conveyed from Weldon.

The abundance of labor is evidenced by the fact that a large number of the houses being built have been applied for, and in some cases could have been rented three times over to experienced mill hands who are coming from many towns in the vicinity to work in the knitting mill. The company which has decided to build the cotton mill believes it can secure all the operatives it requires and more from a radius of comparatively few miles from the mill when built. It is hardly necessary to state that labor costs much less than in New England, and is of a higher character in point of morality, experience and willingness to work. The climate at this point is especially adapted for textile manufacturing, and but little heat is required in the coldest months of the winter season; while, as stated, owing to the abundance of water-power, the mills can be operated during the driest time of the year by hydraulic power solely, and are not interfered with by ice in the winter, as at the North.

The following table, prepared by Mr. Byron Holley, the noted hydraulic engineer, shows the rates charged for water-power at various important manufacturing centres:

Name of place.	Hours per day in use.	Rate per H. P. per annum.
Paterson, N. J.	24	\$37 50
Birmingham, Conn.	12	20 00
Manayunk, Pa.	24	50 25
Dayton, Ohio.	10	35 00
Wamsat, Da.	11½	48 25
Lowell, Mass.	10 to 11½	20 00
Lawrence, M. S.	10 to 11½	20 00
Cochoe, N. Y.	10 to 11½	30 00
Holyoke, Mass.	10 to 11½	20 00
Rochester, N. Y.	24	25 00

Roanoke Rapids has the advantages of all these points, as power can be furnished very much less, and superior inducements offered over any water-power in the United States. Steam-power for ten hours costs nowhere less than \$20 per horse-power.

In regard to living, Roanoke Rapids from its situation is a most desirable site for homes, and it is the intention of the company owning it to add to its natural advantages by laying out parks in addition to the broad shady avenues, and to make it one of the most attractive towns in the country, which can be done at a comparatively slight expense owing to the provision made by nature.

The gentlemen who are interested in the development of the Great Falls of the Roanoke, as it is popularly termed, possessing vast means and experience, have allowed it to progress quietly, and while, as might be surmised, a very large sum of money has been spent in perfecting the power facilities and laying out the town site, its advantages have not been advertised in any way. Since the capital stock of \$2,000,000 is wholly paid, and the company is out of debt and have ample money in the treasury, the really remarkable advantages which the locality possesses for the operation not only of cotton and woolen mills, but of other industries, have not been made public, and are not generally known by manufacturers, but are such that an expert who visits Roanoke Rapids can now appreciate them at a glance. It would be really difficult to overestimate their importance, and it can be predicted with almost absolute certainty that the next few years will show a wonderful change on these beautiful hills, which form the bank of the Roanoke river. The company is now prepared to negotiate with manufacturers desiring to secure some of the advantages it offers, and any of the following named gentlemen will be pleased to correspond with inquirers or to meet them personally:

W. M. Habliston, president, Petersburg, Va.

W. G. Maxwell, vice-president, 120 Broadway, New York.

Winthrop Chanler, secretary and treasurer, 120 Broadway, New York.

GOVERNOR CARR'S INVITATION.

North Carolina as a Cotton-Mill State,
as Presented by the Governor.

[FOR MANUFACTURERS' RECORD.]

STATE OF NORTH CAROLINA,
EXECUTIVE DEPARTMENT,
RALEIGH, N. C., May 13.

Replying to your favor of the 20th ult., I would state, in answer to your questions, as follows:

First Question—"Are the laws of your State favorable to the investment of capital in manufacturing enterprises by outside people, and if so, in what particulars? Are there any exemptions from taxation or any restriction on the employment of labor in factories?"

Answer—Yes, the laws of this State are favorable to the investment of capital in manufacturing enterprises, i. e., there are no State laws taxing corporations of this character more than the other citizens of our State. Taxes are low—much lower than the taxes of most any other State in the Union, the State tax being only twenty-one and three quarter cents on the \$100 worth of property for State purposes. While there are no special exemptions, there are no restrictions on the employment of labor in cotton or other factories.

Second Question—"Is there an abundant supply of labor suitable for operatives in cotton mills in your State? Any points on this question, especially as to the supply of labor and the general character of the operatives, will be of interest."

Answer—There is an abundant supply of labor suitable for operatives in cotton mills, and while there is a scarcity of skilled labor, the labor in the cotton mills is being rapidly educated and is capable of making expert labor of the very best kind. Our people are American and without the foreign element, which is a menace to successful business operations in some of the States. There is not 3 per cent. of foreign population in this State, and this population has become assimilated and thoroughly Americanized. Strikes are unheard of in this State. The location of our mills in small towns, and not crowded cities, has a beneficial effect upon the operatives. Our laborers, as a rule, are honest, thrifty and industrious, and when kindly treated make the best labor in the world; they are of hardy stock and do their work willingly and energetically.

Third Question—"What is the likelihood of the enactment of any laws restricting the hours of employment, or in any way interfering with the present freedom that exists in most of the Southern States in the operation of cotton mills?"

Answer—The question of the restriction of the hours of labor in cotton mills, etc., has been somewhat agitated, but thus far without any effect, and the employer fixes the hours of labor. Our manufacturers are voluntarily coming to the eleven-hour law, and the relations between employer and employe are most pleasant; the principal object is work and pay for the work when done. North Carolina is a splendid field for the investment of capital in all manufacturing business, and especially in the manufacture of cotton goods has North Carolina advanced more than any Southern State. The numerous streams, which, as they pass across the State, descend from the mountains and hills to the lowlands, furnish water-power here and there, which, in the aggregate, is estimated to be equal to 3,500,000 horse-power. The abundant supply of wood furnishes a cheap fuel to supplement coal, but in the central portion of the State there is an enormous supply of native coal suitable for fuel, and cheap.

Labor is cheap and satisfactory, and the climate mild enough to allow uninterrupted work. A great advantage claimed, and justly so, for our water-power, is its uniformity, owing to the regularity of the rainfall, being in spring 12.64 inches; sum-

mer, 15.87; fall, 11.71; winter, 12.77. Under these favorable conditions manufacturing establishments have been springing up rapidly during the last few years, and are certain to increase in number, magnitude and variety in the near future. There are in this State 175 cotton mills located in forty different counties, operating about 15,000 looms and more than 600,000 spindles.

The profits arising from many of these mills range from 10 to 25 per cent. on the capital invested. There are thirteen woolen mills, operating 100 looms and over 10,000 spindles. In the golden tobacco belt are many large factories doing an immense foreign business; 110 plug and nine smoking-tobacco factories, the aggregate business amounting to several million dollars per annum. There are fifty-seven carriage factories, thirty-two wagon factories, twenty-five furniture factories, six hub-spoke factories, twenty-four sash, door and blind factories, three paper mills, eight knitting mills, forty-two canning establishments, including vegetables, fruits and oysters; fourteen cottonseed-oil mills, sixteen fertilizer factories and a considerable number of miscellaneous establishments. The greatest progress has been made in the cotton factories. During the past year many new enterprises have been started, and the investment of Northern capital has been productive of much activity. We invite the manufacturers of the North to visit our State and see for themselves. I am satisfied that big enterprises could get liberal offers from many towns and cities of the State for sites for factories and exemption from local taxation. Our laws are just and equitable and in keeping with the conservatism which has ever characterized the "Old North State." Strangers are welcome and are received with appreciation due their merits. New cotton mills have just been built on that powerful water supply, the Roanoke river, which can furnish 15,000 horse-power, and is in the midst of the cotton belt. There are other water-powers equally as good remaining as yet unimproved and unused for manufacturing purposes. If it is true that in the midst of the cotton belt is the place for cotton factories, and where labor is cheap and efficient, fuel at hand, and with a climate unsurpassed, not too hot to be enervating, and not too cold to prevent work all the time, almost in the open fields, the year around, then North Carolina offers to the manufacturer an ideal country for investment in the cotton-manufacturing business. If such a country is desired I invite capitalists to visit North Carolina, for I believe no section of the South could be more advantageously situated from a business standpoint than North Carolina.

ELIAS CARR, Governor.

How to Attract Northern and Western Investors and Land Buyers.

Messrs. Pannill Bros., real-estate dealers, Norfolk, Va., writing about the outlook of real estate in that section, say:

"We have within the past two years made quite an outlay in advertising, and we can truthfully say that the *Southern States* magazine exceeds by far anything we have ever tried. In fact, so far as we can learn, it is the only medium that has ever brought us any returns. We have now under advisement several matters brought about through answers to our advertisement in your paper, any one of which will pay us many times over the cost of the advertisement."

It would pay every town and every property-owner and agent in the South to advertise in the *Southern States* magazine. It is published by the Manufacturers' Record Publishing Co., Baltimore, Md.

GOV. EVANS, OF SOUTH CAROLINA.

What the Leading Cotton-Manufacturing State of the South is Doing.

[FOR MANUFACTURERS' RECORD.]

You are of course familiar with the old saying that "the proof of the pudding is the chewing of the bag." So the proof of our claim that South Carolina offers a tempting field to investors, lies in the number of charters issued to industrial concerns. Seventy charters were issued during the fiscal year ending October 1, 1894. Of these, four were issued for cotton mills, four to lumber companies, two to cottonseed-oil mills, seven to printing houses, one to telephone company, two to medicine factories, one basket factory, six building and loan associations, one fertilizer factory, three to banking institutions, one for the manufacture of a South Carolina patent car-coupler, one to a life insurance company, and others in a dozen or more lines of business.

Between the 1st of October and the 1st of May of this year seventy-seven charters have been issued—fifteen for cotton mills, eight for telephone companies, two for tobacco factories, one for a fertilizer factory, two for canning factories, one for an umbrella factory, one for a knitting factory, three for insurance companies, one for an oil mill, two for lumber companies, one for a brick factory, three for banks, three for investment companies, three for building and loan associations, one for a clothing factory, one for a light and power company, six for land and improvement companies, one for a college, the others of the seventy-seven being mainly mercantile associations for trading.

The increase of taxable property in the State has been in the last year \$3,266,008, despite the reduction in assessments allowed the railroads and the closing of all the bar-rooms, etc., in South Carolina.

The increase during the past four years has been \$22,905,818. Since the State's wealth is the sum of the wealth of its individual citizens, it shows that the average man has prospered in South Carolina during the last four years.

South Carolina is very favorably disposed towards capital and manufacturing. She is doing all that she can, through her administration and her citizens, to encourage the manufacture of everything that is used or raised by her people.

There is plenty of good, reliable labor to be had in South Carolina. "Girl Wanted" or "Boy Wanted" will not hang long at the door of any factory or office in the State. The people are willing to work; they are honest, reliable and intelligent. The entire force of many of the small mills in the State is drawn from the country adjacent. The operatives are the sons and daughters of the farmers. They are quiet, interest themselves in their own business, and are born with a high sense of duty and a strength of character to uphold them in its discharge.

There is no likelihood of adverse legislation to capital in South Carolina. In fact, the reverse has been the rule. As an instance of it, may be cited the fact that since the financial depression the assessment of railroad property has been reduced nearly \$3,000,000. Towns and counties frequently give tax exemptions to manufacturers for a term of from five to ten years, and often give building sites as an inducement for manufacturers to establish their plants in certain localities. Every county in South Carolina is entered by at least one railroad, and from three to six afford transportation in the greatest number.

The raw material, cotton, wool, fruit and vegetables, are produced within a stone's throw of the factories. Fuel is easy to be had everywhere. The water courses never freeze. Work is equally possible in January and July. In fact, there is no

State in the Union which offers so fair a field to manufacturers as South Carolina, nor is any State making such rapid progress in the useful arts, and yet there are few that have made less noise about what they are doing.

JOHN GARY EVANS, Governor.

DARLINGTON, S. C.

Wealth-Creating Possibilities—Characteristics of the City—Progressiveness of the Citizens.

Editor Manufacturers' Record:

No other site in the South is making such progress in cotton-mill building as South Carolina. In fact, the general progress of this State is today one of the most striking features of Southern advancement. Because of these facts, and because Darlington is one of the most thriving towns in South Carolina, the man in any walk of life who desires to change the location of his business or residence should examine carefully the opportunities afforded by this thriving, progressive city. The lucrative openings for commercial and manufacturing occupations lead to an examination of the combination of features which are the basis of such opportunities.

The remarkable energy and "vim" of the people strike one so forcibly as to prompt the inquiry as to what causes such a progressive spirit. Ask a citizen and he will simply refer you to the city itself. The location, the rare centring of advantages and the climate are partly responsible. Knowing they have the underlying features solidly founded, and that the development of a greater city must result from the material at hand, they are uniformly pushing forward towards the achievement of this purpose. To make Darlington bigger, broader and greater is the mainspring animating its people. The visitor finds this sentiment infectious, and the temptation is usually successful to locate in Darlington and become one of its citizens. As a place for a home it has few equals. It has about it that quality that when possessed by a politician is called personal magnetism. You see it; you are charmed; you leave it with reluctance; you want to see and know more of it. Some say that this is due to the atmosphere, that refreshing, invigorating breeze that belongs to its climate; some claim that it's the water, that pure, clear, cool beverage that flows from its springs, wells and streams, but my opinion is that it is due to a rare combination of happy circumstances.

But to let this pass, what more desirable place for a location could our friends of the bleak and crowded New England States want for a home? What better field for investment could they require? Here they can find healthful and pleasant surroundings, good schools and churches, choice society and unexcelled chances for investment in many different branches of industry.

Darlington is situated one hundred and ten miles north of the great port of Charleston, and is the business and manufacturing centre of the Pee Dee section, one of the richest and most productive districts of the South. The county of Darlington contains 625 square miles, and lines the west bank of the celebrated Pee Dee river. It is noted for its productive lands, hospitable people.

Swift streams of pure, sparkling water flow through the land, which is mostly level. A considerable area of an original forest of fine timbers still stands untouched. The lumber industry of the county is a valuable one, and each year large quantities of lumber are shipped to Northern markets. A larger portion of the farm lands are cultivated, but not to their full extent, and are capable of much further development. The lands are re-

sponsive to good farming, and those farmers who are adopting modern improvements are making successes that indicate the rich possibilities in land in this section.

The chief farm product of the county is cotton, although the county raises by far the greater part of all its grain. A great many farmers raise for sale corn and oats. Peas, potatoes, tobacco and molasses can also be profitably produced.

The county produces annually about 33,000 bales of cotton, of which from 15,000 to 20,000 are marketed at Darlington. The consumption of the Darlington Manufacturing Co. is 4800 bales per annum, leaving 10,000 to 15,000 bales for shipment, with various amounts shipped from other points in the county. Within forty miles of Darlington, besides its own product of 33,000 bales, there are annually marketed and shipped 90,000 bales.

The county, prior to 1860, stood second in cotton producing in the South, which fact gives assurance of future production of cotton as long as it is in demand.

The railroad facilities are equal to those of any city in this section of the State. The county is traversed from north to south by the Cheraw & Darlington Railroad, and from east to west by the Charleston, Sumter & Northern Railroad.

The Pocahontas coalfields, which produce as fine coal as there is in the South, are 300 miles north of Darlington, and easily accessible by rail in case coal is desired for steam-power.

The water has been successfully tested by the Darlington Cotton Mill, and is pronounced to be unexcelled for making cotton goods. Besides abundant water from wells and springs in every section of the county, there are springs of chalybeate water, furnishing chemically pure and fine drinking water. There is a flowing artesian well 325 feet deep within 100 yards of the courthouse, which supplies the town with water for drinking and fire purposes.

This county was originally settled by the Huguenots, Scotch and Welsh, and the population is composed of honest, intelligent people. The Darlington Cotton Mill employs about 350 operatives, whose capability and industry solve the question of labor for manufacturing cotton. The State and county taxes for the last ten years averaged but \$1 per \$100. Mills or other new enterprises located within the town limits will be exempt from city taxes for from ten to twenty years, depending on the nature of the manufacturing.

With its fine surrounding territory, a progressive and growing town capable of great development, and with every commodity entering into the cost of production at field, forest and mine prices, less shipping, carting and commission fees, Darlington offers attractive inducements to cotton-mill investors. There is here a fine array of auxiliary advantages to add to cheap cotton, fuel, land, taxes, living, and building material of every description. These are solid, substantial and practical inducements forming the basis of success in any enterprise, and their superiority and availability at this point make them doubly valuable.

Cheap land and cheap homes for the operatives make Darlington a point of advantage in properly caring for mill hands. Operators are not packed in small houses, close together, without a grass plot to walk on or room for expanding one's lungs. They need not be cooped up in badly ventilated and unsanitary houses, lowering their physical standard and lessening their ability to labor. Each family here can have a neat cottage, with exercise grounds and a garden. Contented employees can only be secured under such conditions. Besides, the cost of living is down to a minimum, as taxes are low, water costs nothing and light is cheap.

As operatives can live here so cheap, they can, of course, work for smaller wages, lessening the cost of production to the manufacturer, and still have advantages over the operatives of large cities. The building of a half million dollar mill in a town the size of Darlington would increase values considerably, the mill builder being an equal beneficiary with the citizen. In a large city the mill company might prosper or perish for all the public would care, while in Darlington it would be the pride of the enterprising populace, and every man would feel that he was personally interested in its success, and support and encourage it accordingly. These are plain, practical business facts that will not escape the experienced and sagacious New England manufacturer if he comes South to seek a location.

DARLINGTON'S TOBACCO INTEREST.

Darlington county has become one of the most extensive and successful tobacco-producing sections of the South, and the quality of the product is probably the finest in the South.

The Darlington tobacco sells for about thirty-three and one-third cents per pound more than the same character of the plant raised in either North Carolina or Virginia, and is in great demand in the market. The average yield in Darlington is greater than in any other portion of the South with which I am familiar, being from 900 to 1500 pounds per acre.

The production of tobacco in Darlington is not an experiment, but a success. Six years ago a dissatisfied cotton planter put four acres in tobacco. This was followed the second year with seventy-five acres; the third it was increased to 150 acres; then to 250; the fifth to 1000, and this, the sixth year, to 4000. This year not less than 700 tobacco barns will be built in the county. Four years ago the first tobacco warehouse was built for the sale of tobacco, and its success has been so great that two others one-third larger than the first will be built this year.

These are the figures for Darlington county only, the country for fifty miles around being extensively engaged in the production of tobacco that is marketed in the city of Darlington.

Located at Darlington is one of the most successful smoking tobacco factories in the country, and there are fine opportunities for a half dozen others.

The tobacco raised in this section being especially suited for the manufacture of cigarettes, there is a fortune in store for some enterprising man with money who will establish such a factory at Darlington. It affords an exceptional chance for a safe dividend-paying investment. The city of Darlington agrees to donate land for tobacco prizehouses, and two sites have been accepted on the proposition, and houses will at once be constructed.

By a close study of the subject, the tobacco growers at this point have greatly decreased the cost of production. Five years ago it cost them \$75 an acre to produce tobacco, and now it costs not more than \$35. Darlington it seems, too, is destined to be one of the greatest tobacco producing and manufacturing centres of South Carolina, and one of the most important of the South.

In addition to what has been named, Darlington has large phosphate interests and one of the most successful phosphate factories in the State. It has two fine banks with a capital of \$280,000, water works, electric lights, telephone exchange and other modern conveniences. It has a splendid commercial business, having drawn the trade of a magnificent, large and fertile back territory for years.

Substantial aid awaits cotton or other manufacturing enterprises of any importance. Excellent sites are available on Swift, Mill and Black creeks, and one of them will be donated.

If you are looking southward for a home or investment, put Darlington at the head of the list. If you visit the South, don't fail to see Darlington. If you want information about the finest section and most promising little city in the South, write to the Board of Trade, or Hon. W. F. Dargan, mayor, Darlington, S. C. If you want to invest money to make money, investigate Darlington.

LEE LANGLEY.

CLINTON, S. C.

A City With a Future—Its Attractions and Resources.

Editor Manufacturers' Record:

This place holds out a variety of charms, and contributing to its advancement are a combination of natural advantages that, with a progressive citizenship, is steadily pushing it to the front. It is a favored and promising place, with rich possibilities ahead. To such a town as this men of enterprise and means should come. Its growth is certain, and it is just as fixed that the men who are at the head of its business interests will become greater, richer and more influential.

Clinton lies in the natural pathway between Charleston and the West, and Atlanta and the East. It is the intersection point of the main lines of the three great railway systems in the South Atlantic section, and, being a touching point where competition is sharp, it has these splendid transportation advantages, via:

- The Southern Railway.
- The Seaboard Air Line.
- The Atlantic Coast Line.

Each having excellent fast freight and passenger schedules, they are competitors for every dollar's worth of traffic to and from Clinton.

Clinton is linked to the port of Charleston by the Atlantic Coast Line; to the coalfields of Tennessee by the Southern Railway, and is led to the markets of the East by the Seaboard Air Line.

In addition to these advantages, it is supported by one of the finest sections of surrounding territory in the Piedmont regions, combining the rich resources of nature in its fields, forest and mines.

It is a healthful place, with good water, superior climate, schools, choice society, good churches and all other social requirements.

To the cotton manufacturers of New England its advantages are especially interesting. Clinton is in the centre of the great cotton-producing and manufacturing belt of Western South Carolina, and has many mills on every side in successful operation, paying actual annual dividends of from 8 to 20 per cent. It is the best and largest town in this section that has not a cotton mill in operation. It is an advantageous place for the location of a cotton mill in this section, for, by reason of having no existing mill, it offers all the required raw material undisturbed at the very doors of the factory sites at first cost.

Here cotton can be had in abundance from the surrounding fields at wagon prices, with no shipping, cartage, insurance or brokers' fees.

The brick for buildings will cost only the expense of molding and burning the clay.

Stone, only the cost of taking from the earth and cutting into shape.

The tax-rate on manufacturing property is only thirteen and one-fourth mills.

Fuel can be had as cheap as any other place in the State, with only a few hours haul from the mines.

The most available sites in and around the city, with any required amount of land, can be secured at only a few dollars an acre, with reasonable concessions to desirable investors.

There is hardly a place in the country where living is cheaper. The broad acres of fertile fields around Clinton furnish the market with all kinds of farm produce almost incredibly cheap. Domestic fuel from the original forest near the city can be had at a mere nominal cost.

Labor of the best character for operators can be found in and around the city, much of it with experience, and the success of the existing mills in this section is sufficient evidence of the ability of local labor.

The citizenship of Clinton is a progressive one, and the people, having abiding faith in the superiority of their resources and their future development, stand ready to meet outside capital on liberal and advantageous grounds, and co-operate with every movement looking to the building up of the town.

Correspondence from any source will be promptly taken up, and any additional information furnished more in detail on application to J. A. Bailey, R. C. Wright or the city council.

MILL OPERATIVES IN THE SOUTH.

The Views of a Leading Cotton Manufacturer.

[FOR MANUFACTURERS' RECORD.]

Among the many popular fallacies which possess the people of other sections is the very general one that the operatives in the textile mills of the South are inferior to those in New England mills. Some outside people even believe that Southern mill help is composed of negroes, but the absurdity of this is so great that it needs no comment. The help in the Southern mills is nearly all "native and to the manner born." It is tractable, teachable and industrious. In no other section of this country, nor abroad, will there be found more willing and moral operatives. Believing that the best results come from a clear understanding with the employer, and an avoidance of strikes and their attendant evils, the Southern mill operative has always shunned trades unions and similar organizations. About twenty years ago a corporation with which the writer was then connected, anxious to secure what it supposed to be skilled help, imported about two hundred weavers from England. It was a costly mistake. They were never satisfied, were filled with argument and beer, and were as unpopular with the native operatives as they were with the officers. Luckily they soon scattered, and the departure of our English malcontents was always the occasion of rejoicing on the part of overseers and the officers of the mill. Having carefully watched the help employed in New England, and having had long experience with foreign and native Southern help, it is not exaggeration, I am sure, to say that the Southerners are far better than any I have ever seen elsewhere. The greatest need in the South is technical education for overseers and men likely to occupy such positions. This is being steadily and surely met by the practical foundations in education laid by the State School of Technology. Then with a steady demand for Southern overseers and superintendents this deficiency now so palpable, will be corrected in the early future. The rank and file soon become proficient enough along with their other good characteristics to be valuable. True it is that the South has never yet developed to immense proportions its cotton and wool manufacturing interest, but with the great growth now being made there is no sign of any scarcity of help. The phenomenal increase in cotton spinning in our section is born of a knowledge of our real advantages. Outsiders are beginning to appreciate these advantages, and when such corporations as the Dwight Company and the Massachusetts Mill Company practically acknowledge them as they are now doing, by build-

ing large mills in Alabama and Georgia, no room is left for argument. The climate, cheap power, favorable legislation, low taxation, contiguity to raw material, are all potent factors, but there is no more telling inducement than the certainty of finding contented help at reasonable prices. All these the South offers, and as rapidly as her now depleted tills fill up, much of the surplus goes into cotton spinning. A warm welcome awaits New England and foreign capital, and what is far better, reasonable dividends are certain where judgment and brains guide the capital so invested.

At points like Augusta, Macon, Columbus, etc., where manufacturing has been carried on for many years, there is probably a better and more skilled class of help than in newer places. Transmission and inheritance have much to do with one's adaptability to any pursuit. Environment and early training are always important educators. Here in Columbus, where such an abundance of water-power is found, where the best grades of cotton are marketed at one's doors, there is at present an ample supply of help. The mills have been and are on full time, and with the better times dawning, new industries are contemplated, and others will come. The South as a manufacturing section is rapidly growing. One of the most potent factors in this solid growth is the law-abiding, energetic Southern mill operative.

G. GUNBY JORDAN.

Columbus, Ga.

AUGUSTA, GA.

A Leader in Producing Cotton Goods. Its World-Famed Canal and Multifold Advantages.

Editor Manufacturers' Record:

In looking over the many ambitious and solid cities of the South, Augusta, by reason of its progress and prosperity, its distinctive natural advantages and the push and pluck of its people stands forth as a conspicuous example. There is much to tell about this city, because its advantages are manifold. Already the largest cotton-manufacturing city in the South, with twelve big mills in successful operation, another one in course of construction, and others in prospect, its future suggests a whirr of the spindle of such a volume as is now only heard within the borders of New England.

This city is the second largest inland cotton market of the world, the annual receipts being 200,000 to 250,000 bales, and the quality and texture of this cotton are of a superior variety.

Augusta-made goods are quoted with high favor throughout the markets of the country, an item of much value to a new mill in introducing its goods and building up a trade.

Augusta is world-famed for its canal. This is owned by the city, and is one of the largest in the United States. The entire waters of the Savannah river, the eighth river of the Union, being next in size to the Hudson, are made available for maintaining the supply. Power is rented by the city to manufacturers at the low price of \$5.50 per horse-power per annum. There are 3000 horse-power unused and for rent at the present time.

A new mill established in Augusta would have the benefit of all the settled conditions that it has taken the existing mills years of persistent effort to secure. It would have fast freight services, the lowest possible rates, experienced labor, the best market quotations, supplies of material always ready, and repair shops and special arts which are auxiliary to the manufacture of cotton. Owing to the great supply of cotton brought to the Augusta market, the local manufacturer can exercise the utmost care in selecting grades as well as staple.

Of this supply only 85,000 bales are consumed annually by the local mills. The presence of so many mills attracts labor, and there is always a surplus of intelligent and trained cotton mill operatives.

The best evidence of Augusta's superior advantages for manufacturing is the phenomenal success of its existing mills.

The climate of Eastern Middle Georgia, in which Augusta is situated, conforms to all requirements for manufacturing, and is especially adapted in humidity for the manufacture of cotton goods. The temperature is mild. The average for twenty-three years is as follows: Spring, 64°; summer, 80°; autumn, 64°; winter, 49°. As regards humidity, Augusta is equal to if not better than the great New England manufacturing districts.

There are ten railroads entering Augusta, traversing fertile sections and extending to all the markets. Via these railroads the five great South Atlantic seaports are reached by direct lines, giving competitive rates. Steamboats ply the Savannah river between Augusta and the Atlantic seaboard all the year.

There are other incidental conditions offered by Augusta that should command the attention of manufacturers and investors. It is one of the most beautiful cities in the South, with its wide and well-kept streets studded and shaded with magnificent foliage. It has fine parks, theatres, public buildings, pleasant resorts, public schools, colleges, churches and social advantages, offering everything in the way of pleasure, health and social advancement that could possibly contribute to the contentment, enjoyment, prosperity and intellectual improvement of operatives.

Being a large manufacturing centre, every interest has been planned favorable to the operatives as well as the operator, and the result is that no more prosperous or contented class of labor can be found in the United States than that in Augusta.

The claims made by Augusta are worth the investigation of every manufacturer contemplating investment in the South.

LEE LANGLEY.

OPPORTUNITY TO MANUFACTURERS.

The Advantages Presented by the City of Savannah for Investment and Residence.

Editor Manufacturers' Record:

To anyone seeking opportunity to invest money in manufacturing or mercantile enterprises, or desiring to find the best locality for a home, the city of Savannah, Ga., offers unusual inducements. It has been especially favored from the standpoints of geographical position and climate. Its location has made it a natural railroad centre, giving it direct communication with the principal Southern cities, while it is directly on the route between the Northern cities and the principal winter resorts of Florida. In fact, Savannah itself is a very desirable resort for those who do not care for an extremely mild temperature during the winter months. Situated less than 150 miles from the Florida line, freezing weather is seldom experienced, even in January, while its proximity to the ocean moderates its summer temperature.

One of the first considerations, however, to the prospector is that of health. In this feature Savannah attracts special attention. Thanks to the energy and broad policy of its business bodies and city government, the questions of drainage and pure water have received careful attention. An artesian-well system furnishes the community an abundance of pure water, which has been tested with the most satisfactory results.

Another notable feature is the character of the people. One of the older cities of the country, Savannah has a large popula-

tion of the better class of citizens, and ranks socially on a par with any other community in the United States. While its business men have given it a high reputation commercially, they display judgment and conservatism in such a manner that financiers in the North as well as the South regard Savannah banking, mercantile and other corporations as established on a sound basis.

To quote some interesting facts in figures:

The city now has a population of 55,000. It is situated on the Savannah river, eighteen miles from the ocean, on a plateau fifty feet above sea level. It covers an area of over 4000 acres, and is really famous for its beauty as a residence town. Its water supply of about 14,000,000 gallons daily is entirely from artesian wells, while its excellent health record is shown by the fact that the official death list for the past year was 14 1/4 persons to 1000 white population. Its commerce is very extensive. It is the largest naval-store market in the world, handling yearly over 1,250,000 barrels of rosin and turpentine. It receives and exports about 1,000,000 bales of cotton annually. Its lumber and rice business is very large. The truck farms around the city, for which the lands are particularly adapted, are increasing every year, and the shipments of vegetables and melons run up into the hundreds of thousands of packages. The wholesale jobbing trade amounts to about \$33,000,000.

To handle this enormous business the transportation facilities must be of the best character, and with eight steamers per week for New York, Philadelphia, Baltimore and Boston, besides quick railroad service to all points North and West, shippers have ample facilities. The United States government has spent in the past five years \$3,500,000 in the improvement of the harbor, and ships of the largest type can now come up to the city. With the increased depth of water the tonnage has also increased, and the past year shows nearly 1000 steamers and sailing vessels loaded at the city.

The banking facilities are ample, and it is worthy of especial note that during the money panic of 1893 no clearing-house certificates or other forms of circulating medium were used, but every check presented for payment was cashed.

The city has never had a bank failure.

It has been made during the past year a United States reserve city. The clearings for the year ending December 1, 1894, amounted to \$108,566,177.79; the real estate and personal property returned for taxes in 1884 amounting to \$21,015,007; for the past year \$38,099,671.

While the city has some manufactories, making such articles as cottonseed oil, cotton yarn, fertilizers, sash, door and blinds, carriages, boilers, ice, flour, grist, etc., it is in this line that there are excellent opportunities for more enterprises. Owners of large tracts of land suitable for factory sites are ready to donate such for the establishment of new industries. Large supplies always of raw cotton, hardwoods to be made into furniture, hides to be converted into leather, leather into shoes, phosphate rock into fertilizers, kaolin, dyestuffs, medicinal plants, sugar (from the West Indies, Savannah being nearer than any of the Northern cities,) for refining, reeds for the manufacture of baskets, etc., form the basis of varied manufactures, for which Savannah, from her geographical position, is especially favorably situated.

The people of this city are hospitable and broad-minded, and manufacturers or others desiring to form a part of the community will be cordially received and assisted in every way possible.

Any information asked of the Savannah Industrial Committee will receive prompt attention. W. W. WILLIAMSON,

Chairman of Statistics.

The missionary of the Gospel, as he penetrates the wilds of Africa and opens up that country to civilization and to clothes, is a drummer for the South's cotton goods, is about the way Henry W. Grady once told how the whole world is annually becoming a better customer for the South's great staple

ATHENS, GA.

A City on a Hill Where Health and Happiness Abide, Factories Flourish and Farmers Prosper.

Editor Manufacturers' Record:

Athens, the county seat of Clark, is in the Northeastern section of the State, sixty miles east of and on nearly the same parallel of latitude with Atlanta, the capital of the State. It is a city set upon a hill some 900 feet above the sea level in easy view of the stately Blue Ridge mountains, is in the heart and centre of the famous Piedmont section, and is the mistress of the ridges which slope downward to the sea.

In health-producing, health-invigorating and health-preserving climate it cannot be surpassed, scarcely equalled, while in climatic advantages for agriculture, manufacturing and all of the industrial pursuits it cannot be excelled in all of the Piedmont escarpment. With a mean temperature in summer of 74° F. and in winter of 47° F., with an annual rainfall of 54 inches, with an exemption from all epidemic and endemic diseases, Athens can in truth be claimed as the home of health.

The farming lands of Clark county and the section of country surrounding Athens are of a strong, vigorous and productive red-clay subsoil, upon which can be produced rich and abundant crops of wheat, corn, oats, barley, rye, hay, and in fact all kinds of garden, horticultural and agricultural products, while it is peculiarly adapted for the growth of cotton, which, with the superior climatic advantages for the more perfect growth and maturity of the fleecy staple, classes it amongst the highest grades in the markets of the world. With such generous soil, with such climatic advantages, with open and favoring seasons, with an abundance of rainfall, intelligent agriculture, in this favored section, is the sure foundation for good and liberal returns.

Clark county and this immediate section are largely and most wonderfully adapted to all kinds of manufactures. Within a radius of eight miles around Athens there are some fourteen or fifteen water-powers ranging from five to 3000 horse-power; the larger powers on the rivers, and the smaller upon the creeks, which are numerous, giving a most extensive water system and with an abundant flow at all seasons. The forest growth of valuable timbers in this section is particularly attractive to manufactories of woodenwares, etc. The cotton mills in and around Athens, as well as other manufacturing industries, are prospering and paying goodly dividends to the stockholders. When all of the natural advantages for manufacturing in and around Athens shall have been utilized, then will she become the Lowell of the South.

Education finds in this county earnest and liberal attention. At Athens is the State University and the State Normal School, the famous Lucy Cobb Institute and the Home School for young ladies. The city public-school system is a model one, and throughout the county public schools are held during five months in the year. Eighteen churches of all denominations, nine of which are in the city, are an index of the religious work done.

The county's volume of business is close to \$13,000,000 per year, made up chiefly by cotton, manufactures and heavy groceries. Receipts of cotton in Athens range from 90,000 to 125,000 bales per year, representing from \$3,500,000 to nearly double that sum in money value. Few points in the county are more than five miles from a railroad station. At Athens four railroad lines converge, giving through rates from the North and East by two competing lines, and also from the West by two lines and from the southeastern seaboard by three routes. The county's bonded debt is \$39,500, and the annual State and county taxes are .00775 cents on the dollar. City property is subjected to an additional tax of .3110 cents on the dollar. The city's bonded debt is \$225,000; its taxable property amounts to \$6,500,000. Athens has a population of 10,000. There are about 17,000 people in the county. Labor is abundant, both native white and negro; the latter are peaceable and easily handled. A high order of intelligence characterizes the people. Conservatism, progressiveness and hospitality to homeseekers are dominant characteristics.

The city of Athens has electric lights, electric street cars, gas, brick sidewalks, public schools, a paid fire department with electric fire alarm, free postal delivery, and a splendid system of water works to furnish power as well as domestic and sanitary supply. In the last ten years the city valuation has increased from \$3,400,000 to \$6,400,000. Sewers have been built, and bonds are now on hand for paving the city streets with macadam and belgian blocks. An excellent telegraph and telephone service is supplied throughout the city.

THE SOUTH'S RECORD.

1880, 667,000 Spindles.
1890, 1,700,000 "
December, 1894, 3,000,000 "
Now Building, 500,000 "

ALBANY, GA.

A Strong Combination of Attractions to the Homeseeker and Investor. What the City Offers.

Editor Manufacturers' Record:

A comprehensive study of the characteristics of this section unfolds a story of nature's lavishness that is both interesting and suggestive. The latter because those heretofore unacquainted with this glorious region will be astonished at the array of facts and figures presenting the happy combination in one locality of all those essentials to comfortable living and business success. Suggestive because it will point out to those contemplating a change of abode, a country whose whole physical make-up is a standing invitation to come and abide therein. To the manufacturer it offers no uncertainty but a fixed future unmarred by the usual obstacles to advancement. The general advantages of cotton manufacturing in the South are ably set forth in this special number of the MANUFACTURERS' RECORD. The theory and the practice are clearly shown. After digesting what is said with so much authority it is pertinent to take up localities.

The city of Albany steps forward as a candidate endowed by nature, ably assisted by a hospitable and progressive citizenship, with a warm invitation for closer personal acquaintance with the reader. As to the city, it is located just north of 32° north latitude, at the head of navigation on Flint river, the county-seat of Dougherty county, seventy-five miles north of the Florida line, 184 miles south of Atlanta and 200 miles southwest from Savannah. The population, city and suburban, is about 7000. Albany is the market and trading centre of some ten or twelve counties in Southwest Georgia. Its volume of

annual business ranges between \$3,000,000 and \$4,000,000. Three banks, with a capital and surplus aggregating \$300,000, handle the banking business of the city. An excellent system of water works and well-planned drainage, paid fire department, with modern equipment, electric lights, well-managed schools and a number of churches are the metropolitan features adding to the attractiveness of life in this city.

As a winter resort, Albany has many charms, and in this respect it is considered unsurpassed by any country on the globe. It has a sub-tropical climate, seldom below 20° and seldom above 92°. The average winter temperature is 60°; average summer, 82°. The atmosphere is pure and equable; dryer than Florida or the coast, and less changeable than the higher latitudes. The fig, the olive, the pomgranate and other sub-tropical fruits flourish here. The hardier garden vegetables grow all winter. We commence our spring gardening in January and plant corn in February.

There has been a revolution in the general conditions of this country in the past decade. In the early and rapid settlement of South Georgia from 1840 to 1860, thousands of acres of pine forests were deadened to rot in the fields, and thousands of acres of virgin soil were turned up to the hot rays of the sun. The settlers were illy housed and poorly fed, and the result was chills and fevers, which gave this section a bad reputation as to health. It no longer deserves such a reputation. The conditions and environments have changed; the whole country has grown dryer. The denuding of trees, the cultivation of the soil, the drainage of ponds, has changed the face of the country. In many places where, fifty years ago, were large ponds, it has grown up in trees or is in cultivation. The health of this city and surrounding country will now compare favorably with any other. You have only to come among us and see our men, women and children, to be convinced. We have less ailments—catarrh, asthma, rheumatism, typhoid fever and kindred diseases, than the Northern sections. The following figures from mortuary statistics of Albany show the number of deaths for the last seven years.

	1894	1893	1892	1891	1890	1889	1888
White	25	29	30	31	21	32	34
Colored	37	31	36	40	42	46	41
Total	62	60	66	71	63	78	75
Under 1 yr.	12	16	19	6	6	7	11
Over 60 yrs.	12	11	9	10	4	19	20

This shows a total death-rate in last two years of less than 10 to the 1000 inhabitants. It also shows that while our population in the last four or five years has increased 25 per cent., the total deaths has diminished, showing decreases in the death-rate of about 33 per cent. This we attribute to the general use of artesian water and perfect drainage.

Albany has fourteen flowing artesian wells; the flow from each, twenty to 400 gallons per minute, from a depth of 600 to 800 feet. This water is pure, palatable and wholesome. Any individual or corporation can have their own well at a small cost. Our excellent system of water-works is supplied from our artesian wells.

The city has a system of sewerage and surface drainage.

That the moral and intellectual requirements of the people are well cared for is shown by the flourishing schools and churches. There are five of the latter, representing the principal denominations.

Albany is also the permanent home of the Georgia Chautauqua, which adds much to the culture of the city.

Being on a navigable river makes Albany a competitive shipping point. We have six railroads, connecting with all the leading railroad systems of the country, and enjoy the same rates on Eastern and Western freights as Atlanta and northern points in the State.

The climate of this section is so mild that but little fuel is needed for heating purposes. Within 150 miles of the city are the coalfields of Alabama, and connecting them with Albany are two railroads. Wood can be obtained in abundance at \$1.75 to \$2.00 per cord.

There are a number of water-power sites on two large streams, within two to three miles from the city, available for manufacturers at the sites or susceptible of use in the city by conversion to electricity.

Flint river also offers opportunities in this direction. A review of the labor question shows that good native labor is to be obtained in abundance; the general sentiment of the people is to foster new factories, and substantial encouragement awaits legitimate enterprises. A favorable site would be donated to such, and if a larger quantity of land be wanted, it could be secured at a nominal price.

In constructing new buildings, the advantage of cheap building materials can be obtained here.

Good brick at \$5 to \$6 per M; good yellow pine lumber, undressed, \$7 to \$8 per M feet; seasoned and dressed, \$10 to \$12 per M feet; lime, sixty cents per barrel; good lime quarry near here; good mechanics labor for \$1.50 to \$3 per day.

Local aid in brick, lumber, lime, land and cash to a reasonable amount could be expected. Two good brick companies with daily capacity of 100 M brick are located here, and good merchant lumber mills are on all the railroads leading into the city. Every possible inducement will be cheerfully rendered by our railroads, our public and private corporations, and by individuals looking to the establishment and fostering of first-class cotton-manufacturing plants.

We are in one of the best agricultural sections in the United States, in the very heart of the cotton belt. We receive and ship 60,000 bales of cotton annually. Our cottons are remarkably free from stains and trash, and of superior staple, nearly like the gulf cotton.

Considerable long staple or Sea Island cotton is also marketed here.

We ask all those contemplating locating cotton mills in the South to take Albany, Ga., in their trip of inspection, and see for themselves the advantages we have to offer. We can show a city and section of country well worthy of inspection.

For any further information correspondence is invited with Col. E. L. Wight, mayor of the city, or with L. E. Welch, secretary Board of Trade, Albany, Ga.

Contemplate the future of a section of country which has more coal and iron than all of Europe, one-half of all the standing timber in the United States, which raises nearly three-fourths of the world's cotton crop and which can manufacture cotton at a lower cost than New England or Great Britain, which practically monopolizes the phosphate rock deposits of the world, which could produce foodstuffs enough to supply America and still not cultivate more than half of its soil, which has almost every mineral useful in arts and sciences, which has an unequalled climate, which has a great seacoast and rivers without number—think of such a combination, unknown elsewhere, and then picture if you can the South of the future.

ROSWELL, GA.

Wasting Water-Power Sufficient to Run Half of New England's Spindles—Opportunities Awaiting Manufacturers and Others.

Editor Manufacturers' Record:

After noting the features of this city, studying its environment and fully and fairly understanding its resources, one is led to give an estimate of its superior advantages that may be summarized in this style:

Extent and character of its commanding industrial conditions.

Value and variety of its natural resources.

Young in development, enterprising and ambitious, it stands ready to welcome worthy strangers from any State or section, and offer valuable opportunities for investment in many lines of trade and industry.

Presenting such claims, some details are in order, that they may be illustrated and properly understood by those who have no personal knowledge of Roswell. First of all, its location is of interest. As to how a town is located, it might be here suggested that this point is one that cannot be too carefully considered by the home-seeker or investor. Its relative position in regard to those resources out of which grow healthy industries, thriving business houses and contented communities, should be closely studied.

Roswell, convinced of its superior advantages in this respect, complacently invites such examination, satisfied that if it be animated by the single purpose of selecting the best naturally-equipped location, Roswell will speak for itself. The city is located in the mountains of North Georgia, famous for their natural wealth and health-giving climate. It has a population of 1200, and is the distributing and receiving centre for a large and rich territory, in which every variety of farm, garden and vineyard products are grown in abundance at a low cost of production. The extensive area of original forest surrounding the city will supply lumber and fuel for years to come at the nominal cost of chopping and sawing.

The base of the beautiful plateau on which Roswell is located is washed by some of the finest and most available water-powers in the South, combining in their aggregate strength enough power to turn every spindle in Georgia. As the Chattahoochee river gracefully curves around the southern border of the city it rushes over miles of shoals, falling in all a distance of nearly 100 feet. Here, wasting day after day, surrounded by a combination of conditions for manufacturing hardly surpassed elsewhere in the world, is enough power to run half the spindles of New England.

One and one half miles above the city are the Island Ford falls, and two miles below are the famous Bull Sluice shoals. From Island Ford to Bull Sluice the river winds over six or seven miles of rushing shoals, but with an air-line canal the two great falls could be linked together within two miles and a-half, giving a total fall to the majestic Chattahoochee in this distance of from seventy-five to 100 feet. Along the present course of the river, or of such a proposed canal, can be found numbers of splendid factory sites that can be bought from \$5 to \$15 per acre. The canal as proposed would cross the Roswell branch of the Southern Railroad about twenty miles from Atlanta, the capital of Georgia, and the greatest city and market in the Southern States. The development and utilization of this power is confidently pointed out as the greatest money-making opportunity in the South.

Roswell is one of the oldest cotton manufacturing towns in the South. The Roswell Manufacturing Co. built its first

mill, still in successful operation, here in 1840, and its second one in 1882. Both these mills get all the cotton they consume from wagons in the Roswell market, and there is much additional shipped. Enough cotton could be secured off wagons at this point at field prices to supply a mill of 25,000 spindles. Fine spring water, free from minerals, gushes from the mountain sides suitable for bleaching purposes.

The entire absence of inflated land values is a guarantee of the stability of the city's progress, and an attraction to the investor who desires to avoid such speculative elements. Land for all purposes in and around the city is cheap. The State and county tax rate is small, and factories will be exempted from municipal taxes. Labor is easily obtained, and the best class of white labor, both skilled and unskilled, can be secured from the immediate vicinity. The cost of living is small. The climate is undoubtedly one of the most healthy and delightful in the southland. Opportunities here await the homeseeker, the manufacturer and the tradesmen.

An invitation is extended to such to correspond with Mayor Kemp, who will promptly give many additional facts of interest and value.

CEDARTOWN, GA.

Cheap Coal, Excellent Railroad Facilities, Fine Cotton, Staple and Healthful Surroundings.

Editor Manufacturers' Record:

The southward movement of the cotton-manufacturing industry is certain to continue, either by the transplanting entire of large factories or the establishing of branch mills. One takes no risk in making this prediction, for larger profits are certain to result from cotton manufacture in the South, on account of cheaper fuel, proximity to raw material, smaller wages, and absence of restrictive wages and trades unions.

Those cities of the South that are best adapted for the purpose will secure some of these new mills. The city of Cedartown has distinctive advantages in this regard that would be hard to duplicate. It is in the centre of the richest agricultural and mineral section of Northwest Georgia, by many said to be the most fertile region in the South. It has been said of Northwest Georgia that it is suitable for the successful culture of perhaps every agricultural product of the temperate climate.

Cedartown is situated in what is known as the Piedmont cotton district, and the length and quality of the cotton fibre grown therein it is said can only be excelled by the Sea Island cotton. This is recognized in the number of cotton mills already established in this territory, and the high reputation they have won for their products. The experience of these mills demonstrates plainly that this section has superior advantages for the manufacture of cotton. The officials of these mills are wide-awake, and fully understand the essentials for success in this industry. Their universal testimony is that this district is unsurpassed in the possession of such essentials. Further than this, they show their faith in their opinion by investing here thousands of dollars. The reader will note among the mills situated within a radius of thirty miles of Cedartown some well-known titles. The list includes: The Cedartown Cotton Manufacturing Co., Trion Mills, Raccoon Mills, Rome Cotton Co., Lafayette Mills, Coosa Cotton Co., and others in process of erection. The Massachusetts Cotton Co. is building extensive mills at Silver creek, only fifteen miles north of Cedartown.

Cedartown is the county-seat of Polk county, and has a population of 3500. Its altitude of 967 feet above sea level makes it an especially healthful location,

not subject to extremes of heat or cold. The mean temperature during 1894 was as follows: January, 49.3°; February, 47.4°; March, 58.6°; April, 62°; May, 64°; June, 77.2°; July, 78.4°; August, 79.8°; September, 77°; October, 64.3°; November, 51.4°; December, 46.6°.

Examining these figures it will be seen that the fluctuations of the thermometer is comparatively small when is considered the great range of heat and cold to which Northern cities are subjected.

An attraction that will be appreciated by the homeseeker is the splendid church and public-school facilities with which Cedartown is provided. Another important feature is the superior character of the business and social element of the city. In owning its own water-works and electric-light, which are of the latest types of modern construction, the city enjoys an obvious advantage.

Cedartown is a prohibition town. The people are intelligent, enterprising and law-abiding; living is surprisingly cheap, and there is no trouble in getting all the necessary hands to operate the mills. The city has two railroads—the East & West of Alabama, and the Chattanooga, Rome & Columbus. Owing to competition, freight rates are reasonable.

Coal costs only from \$1.35 to \$1.60 per ton f. o. b. Cedartown, or less if contracted for in large quantities.

The city is fortunate in possessing an abundant and never-failing water supply. The numerous springs are constant and uniform in their flow. Their outflow has been accurately measured, and cotton manufacturers will be interested in learning of these abundant supplies of pure spring water. The following are within or near the corporate limits: Philpot spring, with an outflow of 252,368 gallons per day; Lake Juliet branch, 1,193,616 gallons; Tanyard branch (union of above), 1,890,000 gallons; Big Spring and Blue Spring, 5,104,080 gallons (this in addition to the large daily supply taken by the city water works from the Big Spring); Cedar creek, 25,000,000.

Cedartown offers liberal inducements for the location of factories—among the number, a donation of 100 acres of valuable land to any company putting up a cotton factory costing not less than \$500,000.

Cotton manufacturers who contemplate joining in the great industrial movement to the South will do well to write for further information W. H. Williamson, mayor, Cedartown, Ga.; Chas. Adamson, manager, Cedartown Company, 119 South Fourth street, Philadelphia, Pa.; E. B. Russell, secretary Board of Trade, Cedartown, Ga., or J. Wright Adamson, secretary Cedartown Company, Cedartown, Ga.

Cheap Southern Water-Powers.

BLACKSBURG, S. C., April 24.

Editor Manufacturers' Record:

In 1890 a careful survey of the Broad river west of and very near this town was made by Mr. L. R. Burt, C. E., of Hartford, Conn., from which the following extracts are made:

"The drainage of Broad river and its tributaries above this locality is some 1500 square miles. This area is hilly and mountainous, with a much greater annual rainfall than occurs in other parts of the State, amounting to over sixty inches.

"That the times chosen for making observation were at the lowest stages of the water, as was evidenced by reliable persons having intimate and long-time knowledge of the river at Cherokee ford. * * * In South Carolina the maximum cost of one horse-power per annum is \$7, and the minimum cost of one horse-power per annum is twenty-eight cents, while the average of the whole is \$1.70

"The maximum cost of \$7 was at Vaulse, where the dam, I am informed, was

built on a pile foundation on bad bottom.

"From this data it will be seen how profitable such powers are, and even a rental of \$5 per horse per annum will pay handsomely. This section of Broad river is peculiarly favorable to an economic development, the river bed being rock and the shores jetting out in convenient bluffs for anchorages for dams.

"The following prices are charged for one horse-power per year:

Patterson, N. J.	\$37 50
Birmingham, Conn.	20 00
Manayunk, Penn.	56 25
Dayton, Ohio.	38 00
Wauwaset dam.	48 25
Lowell, Mass.	20 00
Lawrence, Mass.	20 00
Cohoes, N. Y.	20 00

The Cherokee Falls Factory near this place, recently burned, but now about rebuilt to spin 46 yarns and weave the same, stands charged with about twenty cents per horse-power per annum, and this charge has been increased recently from twelve cents by enlarging the power to 1500 horse from 850 horse-power.

Any one of these river powers near the line of the Southern Railway in South Carolina can be developed and maintained in perpetuity at an annual cost of less than \$1.50 per horse-power per annum, especially if the full capacity of the power at mean low water is utilized, and in some cases this can be shaded to less than \$1 per horse-power per annum.

Let it be borne in mind that factory sites can always be had in this Piedmont belt, so located as to insure the buildings from danger from floods, and that in most cases the vertical rise of the rivers is not excessive; further, that no obstructions ever occur from ice forming or ice flows.

In making estimates for the cost of horse-power per annum, interest on cost of not only the site, but bodies of adjacent lands needed for building purposes, is computed at 7 per cent. per annum, and a sufficient sum for annual or extraordinary repairs set aside; into these sums added divide the number of horse-power utilized, and you have the annual cost per horse-power.

Augusta's powers are rented at \$5.50; Columbia, S. C., at \$5. Cheap enough, but cheap as these are, there are many more waiting for development where power can be had at the very lowest rates.

These water-powers are as live and living coal mines, from which no cost of mining coal ever occurs. Once constructed on a permanent basis, they will last until the end of time, and by recent developments in electrical transmission the power can be utilized on the spot, or any surplus power transmitted to other points, and mills can generally be so located on these streams as to have reservoirs of water stored nearby and elevated so as to have a natural flow for fire purposes, and so lessen the cost of fire insurance.

JOHN L. BLACK.

FARMERS' BANK OF KENTUCKY,
HENDERSON, KY., May 10.

Referring to your letter of May 2, will say that there is one cotton mill here with a capacity of 600 looms. The mill has been a phenomenal success from its inception, never declaring less than a semi-annual dividend of 4 per cent., besides adding largely every year to the surplus fund, until they have such an accumulation of surplus that the mill will soon be increased in capacity 50 per cent. without, as we understand, calling for an assessment on the stock. This is probably one of the very best points in the South for the location of cotton mills or other manufactories on account of the cheapness of fuel, which can be laid down at the furnace doors at a cost of sixty cents per ton, its advantages as a distributing point and the cheapness of freight upon the raw material. Henderson has three railroads and the Ohio river as shipping facilities, making exorbitant freight rates impossible.

EDWARD ATKINSON, Asst. Cashier.

GOVERNOR STONE, OF MISSISSIPPI,

Presents Some Strong Arguments in Favor of that State.

[FOR MANUFACTURERS' RECORD.]

I note with great pleasure the purpose of the MANUFACTURERS' RECORD expressed to make a special issue covering the textile-manufacturing interest of the entire South.

The South is to be congratulated on this generous and practical scheme, for, to my mind, nothing can be conceived so fraught with ultimate results of benefits to the South as the universal establishment of factories converting her raw material (cotton) into more valuable shape—yarn and fabrics. As I have heretofore stated through the MANUFACTURERS' RECORD, not one bale of raw cotton should be exported from necessity from the borders of any State in which it is grown. If the fundamental relation between the raw and spun cotton were studied closely with a view to economy to the spinner and better net prices to the grower, I am sure my and your idea of Southern spinning would soon prevail, greatly to the benefit of all interested in cotton growth and manufacture.

From a close study of the condition precedent to possible and profitable textile manufacture, I am persuaded that Mississippi can offer, and does present, as many advantages as any State in the South—a great many of them natural, and many artificial, yet reliable and needful to success. Alongside of and mingling with the population which makes her 1,000,000 bales of cotton is a sufficiency of labor to manufacture it—intelligent, contented, docile by nature and wanting employment in this field. The laws of Mississippi are most favorable and inviting to the investment of capital in manufactures by outside people in this: That to encourage such investments they grant exemption from taxation for ten years to all factories "hereafter established in this State before the first day of January, 1900, for working cotton, jute, ramie, wool, silk, furs, metals, and all other manufacturing implements or articles of use in a finished state shall be exempt from taxation for a period of ten years." There are no legal restrictions on labor employment in factories, the temper of our people being to allow perfect freedom between employer and employe to adjust such matters between themselves as conditions and circumstances conspire to mutual benefit.

Mississippi has ever been an agricultural State pure and simple, and with cotton as the chief, and in many sections of it practically the sole, staple of production; hence she has no cities and few towns of over 6000 inhabitants. There is in our rural districts a large population of non-producers. They cannot perform farm labor, and for want of other employment, such as is found in factory sections, they are practically idlers.

This character of ready help abounds in all sections of the State, except, perhaps, in the Delta region, in which, with few towns of consequence, negroes constitute the rural population and rural class. I cannot commend the negro as adapted to factory operation. But to this section I am sure our white population would willingly go if invited by opportunity of a livelihood as cotton-factory operatives.

No State grows a finer staple of cotton than Mississippi. In fact, the best of what is known as "Benders" is grown in our Yazoo-Mississippi Delta section of the State, in which is produced 33 per cent. of our 1,000,000 bales.

In fine, Mississippi has a standing invitation to capital seeking investment, in her laws and the willingness of her people in hundreds of localities to co-operate with capital and experience in erecting factories by the taking of stock in any amount de-

sired by the promoter who gives assurance of good management.

The strongest assurance that can be offered of non-interference by legislation with the millman and operatives as to hours of labor and kindred restrictions is found in the recognized demand and desire of our whole people for the erection of cotton factories in this State, which afford employment for women and children who cannot find it upon the farms.

Mississippi has but few cotton mills. These are successful and operated by home labor. A strike or discontent even is unknown to them. Certainly no appeal to legislation has ever been made on behalf of employees.

It is gratifying to observe the trend of conviction that cotton can be manufactured in the Southern States successfully. The success of mills in the States of North and South Carolina and Georgia particularly has demonstrated this; hence the impetus to new enterprises in those States. This is right, and I trust the day is not far distant when each of those States will manufacture every bale of her raw cotton. Why not? If one-fourth can be converted, why cannot all of it? If these States can manufacture their own cotton, why cannot Mississippi, with equal advantages, do so? I claim that she can. No State can furnish cheaper building material or better, nor can better or more abundant labor be found, nor a more equable climate with cheaper living.

The State abounds with water power facilities of large capacity if developed. Fuel (coal) can be delivered at a great many points as cheap as in the Piedmont region, for we are at the door of the Alabama coalfields.

For health, a great desideratum with millmen, Mississippi compares favorably with any State in the Union.

Cotton production, with high prices, has so completely absorbed the attention and energies of our people for a generation past as to draw into the maelstrom millions of dollars, and now, with low prices, capital refuses to recognize its demands. Low prices are a blessing in disguise to the South. A \$25 bale of cotton cannot stand a \$7 expense account between the grower and the spinner. The mill must come to the cotton; the cotton cannot go to the mill. With an eye to the economies which conditions at present demand, the field is open for capital, and nowhere is it more inviting than in Mississippi.

J. M. STONE, Governor of Mississippi.

HOLLY SPRINGS, MISS.

**A Section Where Fine Cotton Grows,
Power is Cheap, Labor Abundant
and no Taxes Imposed on
Factories.**

Editor Manufacturers' Record:

It does not require very close observation on the part of a visitor to Holly Springs, Miss., to note the many advantages it possesses as a site for a cotton mill. Situated on the northern border of the State, it partakes largely of the hilly character of the Tennessee country northeast of it, the town proper being located at a considerable height above the union station, itself the most elevated spot between Cairo, Ill., and New Orleans, La., therefore conducive to the most healthful influences. The temperature is all that can be desired, rarely above 85° in summer or below 20° above in winter, thus precluding the necessity of the shut-downs occurring in colder sections.

To the east are the immense coalfields of Alabama, the resources of which, while not in any great degree developed, yield an output that diminishes the cost of the best steam-producing quality to the minimum. Of nine seams of the best West Virginia variety of coal, seven fail to show as large

a percentage of fixed carbon and so small a percentage of ash as does this great coal belt directly to the east of Holly Springs. Nor is this the only available source of this favored city's supply of fuel, for the immense coalfields of Kentucky and Illinois are equally accessible, rendering impracticable any fuel famine. Water is abundant, and free from all of those elements that prove injurious to boilers, and so free from impurities and discolorations as not to injure the finest fabrics.

The cotton raised about Holly Springs is of the long-staple variety, free from rust, easily cleansed of impurities and to be had in unlimited quantities from first hands. Time was when the country contiguous to Holly Springs was counted richer in its cotton-producing qualities than any other section of the South, and Marshall county produced an average of a bale to each inhabitant—man, woman and child. Today she maintains her reputation for the quality of her product, and produces a quantity ample for the demands of several large mills. Advocates of smaller acreage are not found here to the extent that they are farther east. The habits of the people are plain and the cost of living not great, this of itself being a great factor in the employment of help. Native-born help is to be found in abundance, and it is of the pure American species without the slightest taint of socialistic blood in its composition. The common schools are maintained in a most creditable manner, insuring more than average intelligence in employees. A mill at this point would find no difficulty in securing competent help, quick to comprehend the nature of its duties, and equally quick to appreciate the benefits accruing to themselves and families from the employment thus afforded them. Transportation facilities at Holly Springs are equal to all requirements. The Illinois Central Railroad, that great corporation whose lines parallel each other in this section, has gained widespread popularity from the generous treatment given industries locating along its lines. Crossing it is the main line of the Kansas City, Memphis & Birmingham Railroad, equally generous in its treatment of manufacturers and penetrating the coalfields before referred to. These two great arteries of commerce afford a ready and effective means of reaching the most desirable markets of the world. To the south, New Orleans with her steamship service to all parts of the world affords an easy outlet, while to the north, east and west the jobbing centres of our own country are equally available. The law-makers of Holly Springs, not to be outdone in liberality by those of the great Commonwealth of Mississippi, in which it is situated, have so framed the municipal laws as to exempt all manufacturing industries from taxation for ten years, the same period as that prescribed by the State.

In the vicinity of Holly Springs hardwood timber abounds, rendering it a desirable location for industries requiring such material, and many opportunities are offered factories in general to locate there. The Young Men's Business League will be found exceedingly aggressive in such matters, replying promptly to all inquiries and freely vouchsafing such assistance to manufacturers and immigrants as is possible.

IRA P. ROWLEY.

If New England can import its cotton, import its coal, import the lumber for its mills and import the food for its people and make money out of cotton manufacturing as it has been doing, how much more could its capitalists earn by putting their money in Southern mills.

LOCATING COTTON MILLS.

Essential Points That Must Be Appreciated.

In view of the rapidly-increasing interest in the South as a most advantageous section for the spinning of cotton yarn and the manufacture of cotton cloth, it is well to note the advantages which are offered for such industries in the territory traversed by the Southern Railway.

This magnificent system, as shown by the accompanying map, traverses nearly every Southern State east of the Mississippi river, penetrating the cotton-fields of North Carolina, South Carolina, Georgia,

of coal mines directly on its own line and contiguous thereto, producing the highest quality of steam coal, combining the advantages of cheap fuel with that of cheap raw material and most excellent facilities for reaching all markets.

To these advantages is added that of hundreds of the best water-powers in the South on and adjacent to its line, available at all seasons, which additional advantage will be appreciated by those seeking facilities of this kind for manufacturing purposes.

In solving the problem of properly locating an industry it is wise to sufficiently appreciate the importance of trans-

Railway offers to the cotton-mill men of the United States unequalled attractions, and it would be well for manufacturers of this class to seek their locations along the line of this great system of railroads.

As an evidence of the advantages offered by the Southern States for the manufacture of cotton goods, it should be borne in mind that there are at present in active operation hundreds of cotton mills consuming annually hundreds of thousand bales of cotton, the most of which is bought at their own doors without any cost of transportation whatever. These mills have been a profitable investment from the beginning. Indeed, under the ad-

that the cotton goods manufactured by these mills are of the most diversified character.

A number of new cotton mills have been erected in the South during the past year, many others have been and are now being enlarged—some to more than double their present capacity. Eastern millmen, having found that cotton can be manufactured at much less cost in the South than in the New England States, are seeking investment in this favored section, and some of the largest cotton-mill interests of New England are erecting magnificent plants in the South, most of which are being located at points directly on the line of the



Alabama and Mississippi. It taps all of the coalfields of Alabama and of Eastern Tennessee. The superior steam-producing qualities of these coals are well known. It reaches through its direct connections (the Norfolk & Western Railroad and Chesapeake & Ohio Railway) the New River and Pocahontas coal regions of the Virginias, and gives manufacturers located on its lines the choice of markets for fuel supply.

It is in a position to give to mills located on its line access at cheap rates to a greater cotton-producing area than any other railway system in the South, as well as an outlet over its various lines and connections for the manufactured product to all parts of the country under the most favorable transportation conditions. It furnishes also a greater number

of transportation facilities. Nearness to source of supplies and nearness to market are controlling factors in the success of an industry. With but one of these advantages, a factory is only half equipped to meet the business competition of today. The great tendency is towards lessening the cost of production, and for this reason industry is seeking those fields where the supplies of raw material and cheap motive power are abundant. Such advantages are, however, greatly deficient, unless supplemented by facilities for reaching a great railroad-distributing system. A factory broadens out as the markets for its goods widen, and, with good transportation facilities, a well-managed industry should steadily develop in this way.

It will thus be seen that the Southern

circumstances of their location, they could scarcely be otherwise. On the line of the Southern Railway there are more than one hundred cotton mills in active operation; these are located at eighty-six different points and represent investments aggregating \$21,000,000. There are 720,000 looms and spindles now in use, and additions constantly being made. Many of these mills have found it necessary to run night and day in order to supply the demand for their product. This demand comes from all parts of the United States, Canada, Mexico, Central and South America, and even from countries on the European Continent. One large Southern mill has contracted for shipment to China of its entire product.

In this connection it should be noted

Southern Railway system.

It has become apparent to even the most casual observer that the South is rapidly becoming the field of cotton manufacture, and even those who have been inclined to belittle the advantages of the Southern States are compelled to acknowledge what has become apparent to all.

The management of the Southern Railway, awake to the advantages which it has to offer to the cotton manufacturer, and alive to its interests as well as the interests of the industries located on its lines, is doing much to foster and encourage this particular class of manufacture. No better evidence of this could be asked than the fact already cited—that the majority of new mills now being erected in the South have sought locations on its lines.

MONTGOMERY, ALA.

The Great Levers of Wealth and Progress, and How this City Commands Them—Industries that Would Pay.

There is no State in the American Union attracting more attention today than Alabama. Of all the thriving cities of Alabama, Montgomery stands out prominently as offering a safe, sure and steadily-increasing field for the investment of capital in business enterprises, manufacturing industries, real estate and other avenues that lead to and make up the occupations of mankind.

Montgomery bases her claims on the fact that her natural position and the immense territory tributary to her combine the elements that form or make great cities. The city is at the head of all the year navigation of the Alabama river, connecting her directly with the Gulf of Mexico and the wealthy South American ports by water. She is situated just below the junction of the Tallapoosa and Coosa rivers, and when the government work on the latter is completed, there will be opened up 400 miles of waterway above her, penetrating the rich coal, iron, marble and timber regions of Central Alabama.

Montgomery is not only the geographical centre of the State, but her situation is such also as to command and utilize the great levers of wealth and progress—coal, iron, cotton, timber and diversified crops.

The mean average temperature of the city is $66\frac{1}{2}^{\circ}$, and the average annual rainfall is fifty-four inches, which is well distributed throughout the year. Her location is beautiful; the business portion gently sloping, while the residence portion covers a semi-circle of hills, forming an unparalleled system of natural drainage, in addition to the miles of storm sewers underlying the city. It is not, therefore, surprising to learn that the annual death rate among the white population is but 9.5, or among both black and white but 13.

The lumber interest of Montgomery is of first magnitude. On railroads, within easy distance of the city, are thirty-nine mills equipped with logging roads, with a capacity of over 300,000,000 feet of lumber. Montgomery lays claim to control of the trade in the indispensable long-leaf pine, and is in the midst of the finest hardwood timber in the State, receiving daily shipments of hickory, oak, ash, maple, gum and walnut.

But sixty-five miles from the city lay the immense coalfields of the Montevallo district, and thirty miles further the inexhaustible supplies of the Birmingham district. This enables Montgomery to receive all the benefits of cheap fuel and iron products without having as citizens the turbulent element at work in the mining districts, which often proves a dear price for cheap fuel.

Six railroads enter the city, including the great Louisville & Nashville, Plant and Central systems. In addition we have to Mobile the Alabama river, by means of which we have assured the year around Western rates of from five to thirteen cents cheaper than other inland cities. Bills of lading for export cotton to Liverpool are issued at our river wharf, and the rate to Mobile is but sixteen cents per hundred.

Our labor consists in the native white element of this section, and the superintendent of one of our cotton factories, where a large number are employed, states that in all the South he has not found as capable, intelligent and reliable operatives as here.

But above and beyond all else, Montgomery is the home of King Cotton. She is the centre of the finest agricultural district in the black belt. Although large quantities of garden produce, vegetables

and fruits are raised on the surrounding farms, yet the quantity of cotton that is marketed in the city is enormous. A particularly fine grade of long-staple cotton is grown immediately around the city, which makes up into superior cloth. Montgomery's annual receipts amount to 150,000 bales and over, one-third of which is brought into the city on wagons. Three large compresses are kept busy throughout the season, and two large cottonseed-oil mills are running to their full capacity.

The following industries would find a profitable field in this city from the first day of their establishment: Cotton factory, canning factory, furniture factory, sash, door and blind factory, plow and implement works, bagging factory, paper mills, wagon factory, etc.

Montgomery has a population of over 35,000, and is growing steadily, is supplied with water from artesian wells, has two fine electric-car systems, several beautiful parks, a splendid system of public schools, churches of every kind and denomination and a people that are prosperous, progressive and hospitable, and who will welcome and aid the investment of capital in manufacturing industries. Inquiries should be addressed to the secretary of the Commercial and Industrial Association.

PIEDMONT, ALA.

Its Advantages for Manufacture, for Health and for a Home.

Editor Manufacturers' Record:

Piedmont is located where the valleys of Terrapin creek and Nancy's creek cross the geological trough known in this State as the Coosa valley. This valley, from four or five to thirty miles in width, is a continuation of the Virginia and Tennessee valleys, which lie between the ridges of the great Appalachian chain of mountains that extend northeast parallel with the seacoast into New England. It is in no respect less fertile, picturesque and attractive than any of the succession of valleys of which it is a part. In freedom from all malarial influences or diseases it is equal to any. In minerals it is claimed by many to surpass all.

In this valley is grown a cotton of a superior staple, as widely known among cotton brokers and millmen, and frequently more sought after than the cotton grown elsewhere in the cotton States.

Piedmont's charms embrace mountains and valleys, rolling plains and running streams, forest and fields, orchards and gardens, green pastures and cosy houses. Great springs of ice-cold, pure freestone water are abundant. The air, filtered and purified in its course through a vast forest of pine, is as pure as the water and as health-giving.

A number of the officers of the Coosa Cotton Mills came to Piedmont broken down in health, their daily existence supported and nourished by medicines and physic; today they and their families rejoice in the possession of fine health, and are happy and prosperous.

As regards mineral resources, Piedmont is in the heart of the brown hematite and manganese iron ores that have made this State famous, and in every direction one finds great deposits of these ores, together with bauxite and other valuable minerals, as well as timber land. Twenty-five miles west are found the Coosa coalfields, which produce one of the best coking and steam coals in the State; thirty miles further brings this town to the Great Warrior coalfields by two lines of railways, thus eliminating any possibility by any mishap of a scarcity of coal for manufacturing purposes.

The town is not only in direct communication by rail with all Alabama coalfields, but those of Tennessee and Kentucky as well.

At this time the citizens of Piedmont

especially invite an investigation by those seeking localities for cotton mills. They heartily welcome all prospectors to Piedmont. We have all that can be possibly desired in location. Our advantages have been tried and not found wanting. The Coosa Mills commenced operations here some three years ago, and today each and every stockholder and every employee of the mills are more than pleased, not only with the mills and profits, dividends, etc., but with Piedmont, its people, its churches, its schools, its climate, its future prospects and all that go to make its people good, prosperous and happy.

The experience of Mr. J. W. Hawke, who lately resigned as secretary and treasurer of the mills here to go North and organize a company for the purpose of building another mill in Piedmont, is interesting. Mr. Hawke's views are those of a Northern man, and his experience indicates what advantageous and pleasant environment Piedmont offers. He writes:

"I came from Philadelphia four years ago to superintend the construction of the Coosa Cotton Mills. We started to operate the mill with native help entirely, only three or four of whom had ever been inside of a mill. Our foremen were men of experience. After the first month the mill was on a paying basis. The employees were quick to learn and appreciative of an opportunity to better their condition, and after becoming accustomed to their new duties were anxious to work steadily. We have had no trouble or strikes. Our employees are contented and happy, engaging in their duties with cheerfulness and with an aptness to learn. Cost of living is cheap here; luxuries and extravagances are practically unknown; consequently, what seems like small wages are satisfying.

"Piedmont being among the mountains, gives it a beautiful scenic effect. It is very healthful. I have not spent anything for doctor's bills nor medicines since being here. It has advantages of two railroads, churches of nearly all denominations and good schools. Coal costs only \$1.50 per ton laid down at furnace door. We buy our cotton direct from grower, thus eliminating commissions, brokerage, freights and other expenses.

"With iron as cheap as dirt, and cotton, lumber, etc., at low cost, why should we not prove our advantages. We want finishing manufacturers here, saving so many freight hauls, that is the secret of a fine profit. We invite the closest scrutiny into our advantages, resources and general make-up for cotton mills."

E. D. McCLELEN, Mayor City Piedmont.

THE SOUTH'S RECORD.

Capital Invested in Cotton Mills.

1880.....	\$21,900,000
1890.....	\$61,000,000
December, 1894....	\$107,000,000
Additional in Mills now building and projected about.....	\$12,000,000

Some Reasons Why Manufacturers and Home-seekers Should Go to Cullman, Ala.

Editor Manufacturers' Record:

The State of Alabama has for many years attracted the attention of manufacturers and other investors, owing to the many natural advantages and resources which it possesses. One of the most desirable points for examination by the prospector is Cullman county, in which is located the town of Cullman. This community, which has already attracted much favorable attention, is located about 1000 feet above sea level, and has a remarkably low death record, being considered one of the healthiest towns in the United States.

It has a very large white population of a very desirable class, who are industrious and of a high standard of morality, and to a certain extent experienced in manufacturing of various kinds.

Being but twelve miles distant from the Bremen coalfields and twenty-five miles from the noted Warrior coalbeds, the town enjoys exceptional advantages for securing fuel at a very low price. This point will be appreciated by manufacturers who use steam as a principal or supplementary power. In addition to this, however, the situation of the town is such that it offers many excellent sites for factories on a large or small scale, while land for tenements for the operatives can be obtained if desired at a price within the reach of the investor of limited means. Cullman also enjoys, in common with many other towns in the South, a soil in the country surrounding it which is adapted for raising not only vegetables of many kinds, but also orchard and small fruits and the famous Scuppernon grapes. This gives a very agreeable variety to its products and greatly cheapens the cost of living, as families who desire can have their own ground and raise all the vegetables and fruits necessary for the table, besides making wine and cider if desired.

But the quality of cotton is an essential feature to prospective textile manufacturers. The cotton in Cullman county is of a superior grade, and the plantations produce so many different kinds that cotton factories can be supplied with any desired quality practically at their own doors, the distance from the mills to the cotton being a few miles and only mule power being needed to haul all the raw material desired.

In point of transportation facilities, Cullman has the advantage of many other communities, being located on the Louisville & Nashville Railroad, by which its manufacturers and merchants can reach the best markets not only of the North, but in the South, and ship goods from the seaboard by way of New Orleans and Mobile.

Another improvement of an important nature is a system of water works now being constructed which will give the residents an ample supply piped directly to their homes, as well as affording protection from fire.

At the present time when cloth makers and yarn-spinners are taking advantage of every point by which they can cheapen the cost of production, the elements of climate, wages, cost of building, value of lands and nearness to the raw material figure largely in estimates. When these are summed up it will be found that this thriving little city will bear comparison with any other in the Southern States.

The attractiveness of Cullman has already claimed the attention of manufacturers, and a company is now securing stock subscriptions for a textile factory which has every prospect of being very successful. This is the Cullman Cotton Mill Co., organized on the co-operative plan, by which operatives as well as heavier stockholders may share in the profits, thus benefiting employee as well as employer, and tending to eliminate all labor trouble, so common in the Northern manufacturing sections, and which has proved such a drawback to the textile industry in New England and elsewhere.

Mr. J. H. Karter, the president of the company, Mr. H. C. Bounds, the treasurer, or Mr. A. Ahlrichs, the secretary of the company, will be pleased to correspond with anyone desiring more complete information, or to explain to visitors the many inducements which Cullman and Cullman county offer to parties seeking locations for industries to would-be farmers or fruit-growers, and to desirable homeseekers in general.

BREWTON, ALA.

The Location for Diversified Industries—What the City Holds Out to Manufacturers.

Editor Manufacturers' Record:

Our location in Southern Alabama, on the main line of the Louisville & Nashville Railroad, is almost equidistant from the cities of Montgomery and Mobile.

This enterprising little city presents a substantial appearance, the main street through which the railroad passes being flanked upon either side by imposing rows of brick business blocks.

The resident portion of the town is situated high and rolling, having fine natural sewerage, wide streets, regularly planted with evergreen shade trees. Artesian wells pour out an unceasing supply of pure water in all parts of the town. A capacious brick school building is under the supervision of the authorities, and is efficient in all its departments even to high art and music.

A drive of less than ten minutes from the business centre of this thrifty place brings us to Murder creek, which at its confluence with Burnt Corn creek assumes the proportions of a river. This stream of clear water has never diminished in size to any extent during dry seasons. Its waters are free from everything that would to the slightest degree injure the finest fabric, and the current running swift from the six feet fall per mile is capable of turning many large turbines.

Another drive back through the town and out its western limits and one strikes Burnt Corn creek. Either one of these water-powers possess all the requisites for manufacturing purposes. The banks of both streams are high and dry, the bottoms gravel, and the surroundings perfect for building sites.

Brewton has close to her borders several saw mills. From them may be had wood of an excellent quality for steam purposes at a cost not exceeding 25 cents per cord. Not far to the north is Birmingham, where steam coal may be had at 90 cents per ton loaded on the cars.

Thus three propositions for economical power are open for the consideration of projectors of industries.

Two extensive lumber plants, a brickyard, two grist mills, one cotton gin, and hoop factory and canning factory furnish evidence of what may be expected of help, which consists for the most part of the native white element. The industries at present here claim that in this particular more than in any one other they are blessed in their location. Intelligent and reliable operatives are found in the immediate section around and about Brewton. The average rate of wages paid is lower than in the North, by reason of the reduced cost in the expense of living.

Labor agitation is unknown, and that female help is trustworthy has been made manifest through the medium of the canning factory, thus assuring projectors of cotton mills immunity from annoyances experienced elsewhere. The physicians of Brewton find the place distressingly healthy, the average death rate being but six per thousand per annum. This is due largely to the equable temperature throughout the year, and the pure water from the many flowing artesian wells. Indeed it is from the purity of her water that the county of which Brewton is the official site derives its name "Escambia," being the Indian name for "pure water."

The cotton raised about Brewton is a superior grade which cannot be excelled in neighboring States. It can be delivered in Brewton in excellent condition for the manufacture of either coarse or fine goods, not crushed or torn from compressing, and free from iron rust and other impurities. The cost to mills buying direct from pro-

ducers in this manner is manifestly below that charged by warehousemen.

Brewton is fortunate in the possession of several public-spirited citizens, broad-gauged in their ideas and with capital at hand to help out deserving industries. She offers, therefore, not only the advantages above set forth, but the donation of a factory site and the promise of whatever aid may be necessary in placing stock among her citizens to insure corresponding protection to other investors.

Brewton also exempts her manufacturing industries from taxes for a period of years. Her business men are young and uniformly aggressive in the matter of encouraging and fostering industrial enterprises.

Adjacent to Brewton are forests of long-leaf yellow pine, ash, white and red oak, satin walnut and holly woods. Coupled with abundant water-powers, nearness to the coal and iron districts, healthy climate, and surrounded by cotton-fields, the city lays claim to unequalled advantages for not only cotton mills, but diversified industries. As it is a prohibition town, the evils of the liquor traffic are absent. Correspondence is invited with the mayor, E. T. Parker.

A Monument of Southern Progress.

The almost phenomenal strides made by the South during the last few years has had the effect of bringing it to the attention of the capitalist, farmer, business man, artisan and clerk. A section of the country that for so many years appeared to be quietly sleeping has aroused from its slumbers, and is now as wide-awake as any other portion of the land. And in its awakening it has not been slow to realize that one of the most hazardous practices indulged in by its inhabitants was that of accommodating friends by becoming their bondsmen. It was but a few years ago that corporate suretyship was a thing unknown in the South. If a gentleman was required to give bond in any legal proceeding, or to guarantee the faithful discharge of his duties in a position of trust, it was not hard for him to find a friend willing and able to accommodate him. That accommodation frequently cost the surety his fortune, and there is many a man in the South today who is as poor as the proverbial church mouse, who, had he not been compelled to make good losses, caused by the defalcation of one whom he trusted and became surety for, would today be in affluent circumstances.

The South, like the North, East and West, has recognized that it is about as business-like to depend upon personal surety as upon personal fire and life insurance, and to the Fidelity and Deposit Company of Maryland is due the honor of bringing it to this realization. Started in 1890 in a single room on the second story of a small building in Baltimore, this surety company has grown until today it is doubtless the strongest company of its kind in the world. It now occupies one of the handsomest buildings in Baltimore, which was recently finished at a cost of nearly \$600,000. It has at present a paid-up capital of \$500,000, with surplus and undivided profits amounting to nearly a half million dollars. The capital on the first day of July next will be increased to \$1,000,000. Of this sum \$250,000 has been subscribed at \$80 per share—par value being \$50—or \$30 above par. The premium, \$150,000, will be added to the surplus. The stock today readily brings \$85 in open market, but while there is a good demand for it, little is to be had.

There is no corporation in the South that has made more rapid headway than the Fidelity & Deposit Co. of Maryland.

There is hardly a State in which it has not been granted the right to do business, and it has offices in most of the large cities from California to Maine. When this company was started corporate surety was almost unknown, especially in the South.

Its initial work was largely that of instruction. Probably the first class to recognize the advantages of insuring themselves against dishonesty was the bankers of the country. Alert to everything that is conducive to security, these custodians of the wealth of the country were quick to avail themselves of the bonds of the Fidelity & Deposit Co. of Maryland, and today many of the most prominent banks in the United States are protected against dishonesty on the part of their employees by the bonds of this company. The officers of those institutions rest perfectly easy so far as the honesty of their employees are concerned, because they know that in the event of theft the loss will be made good at once, and no lawsuit to recover it will be necessary.

The next class to realize the beauties of corporate surety was the legal profession. Under the personal-surety system a lawyer had to have wealthy friends who would furnish his surety; otherwise, he was debarred from becoming an administrator, executor, trustee or from holding any other position of trust where it was necessary to give bond. With the Fidelity & Deposit Co. to become his surety, however, this obstacle is swept away. All that is required is to demonstrate to the company that he is an honest man, and for a small fee the Fidelity & Deposit Co. will furnish his bond. This applies not only to the lawyer, but also to any other individual who has to give bond for a like purpose.

Contractors have not been far behind the banker and lawyer in availing themselves of the services of this company. They recognize the fact that this character of bond is more acceptable than that of individuals, and it is much easier to procure. All they have to do is to show the company that they are financially able to carry a contract to completion to procure its guarantee.

Strange as it may seem, the merchants appear to be the least anxious about guaranteeing the honesty of their cashiers, bookkeepers and other employees in fiduciary positions. It is safe to say that not one merchant in one hundred fails to have his warehouses and stock insured to their full value against fire, but how many are there who take the same precautions against what is almost as bad—dishonesty? During the year of 1894 it is estimated that there was embezzled in the United States upward of \$26,000,000. What proportion of this amount was taken by employees in mercantile houses it is impossible to tell, but, judging from the arrests chronicled in the daily press, it was considerable. The Fidelity & Deposit Co. is endeavoring to show the merchants how foolish they are not to guarantee against such loss, and it is succeeding in bringing many of them to a realization of the fact that it costs so little to secure this kind of insurance that they cannot afford to be without it.

The measure of a nation's civilization is its consumption of cotton goods. Advancing civilization in Asia, in Africa, in South America and in Mexico means broader markets for the South's cotton. We clothe the world, and the world's increasing demand for clothes is creating an ever-growing need for the South's cotton.

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Wishing to Make
Investments in the South

in Cotton Mills, Cotton Mill Sites, Farming Lands,
Fruit Lands, Grape Lands, or any other invest-
ment in real estate, will find it profitable to

Correspond with me.

I would like especially to correspond with pro-
motors of large enterprises.

E. W. COLEMAN,

KIMBALL HOUSE, ATLANTA, GA.

Brownsville...

TENNESSEE,

offers inducements for the location
of a

Cotton Mill

It is situated on a branch of the Louisville & Nashville Railroad, fifty-six miles from Memphis. Adjacent plantations raise sufficient cotton to supply a large mill (12,000 to 16,000 bales handled annually at this point), besides an abundant variety of provisions for all needs. A mill formerly located here burned down some time ago and has not been rebuilt, owing to advanced age of the owners. The farmhouses used by the operatives, with about sixteen acres of ground, also office building formerly occupied by the company, are in good order. This property, located within 100 yards of railroad, can be secured cheap, either for cash or stock. Our city has a population of 3,000, good system of water works, schools, banks, etc. Suitable inducements will be given the proper parties. Personal investigation courted. For further information address

JOHN E. CARTER, Recorder,
BROWNSVILLE, TENN.

Come South

TO BUILD YOUR

Cotton Mills.

INDUCEMENTS OFFERED.

The citizens of Mooresboro, Cleveland county, North Carolina, will give thirty-five acres of land to any one, or a company, that will erect a cotton mill upon same of not less than \$100,000 capital. This property is situated at the junction of the Seaboard Air Line and Ohio River & Charleston Railroads. It has first-class clay upon it, from which can be made an unlimited quantity of very best brick. A nice stream runs through the centre, from which can be obtained water for engine, factory and sanitary purposes. Mooresboro is situated in Piedmont Carolina, and is noted for its healthfulness. It is in the midst of the cotton fields, ample cotton being marketed here to supply several large mills.

Lumber and labor in abundance and as cheap as at any point in the South; strikes and other labor troubles are unknown with us. The property is 1600 feet above sea level. Our citizens will subscribe as much as they can to the stock of cotton mill to be erected upon this property. The lands adjoining this property can be purchased at very reasonable price. Parties contemplating investing in such an enterprise are solicited to correspond.

Address

DR. S. S. ROYSTER, Sec'y,

Mooresboro,
Cleveland County,
North Carolina.

GREENSBORO, N. C.

Offers special inducements for Furniture Factories. Large quantities of Timber, such as White, Black, Red, Spanish, Post, Chestnut and Water Oaks, also, Ash, Yellow and White Poplar, Black Walnut, Elm, Beech, Chestnut, Birch, Gum, Locust, Sycamore, Cherry, Cypress, Maple, Cedar, etc., etc. Write GREENSBORO INDUSTRIAL & IMMIGRATION ASSOCIATION, W. E. STONE, Secretary.

Cotton Mill Property

IN ALABAMA
FOR SALE AT A BARGAIN.

At Bromley, Baldwin county, only a few miles from Mobile; water communication. Admirably located for the manufacture of coarse goods, for which there is a quick market in Mobile. Property comprises 648 acres of land, mostly pine timber, on which, at deep water, is a solidly-built four-story wooden mill, with storehouses, tenements, etc. Mill has a large quantity of machinery, comprising some eighty looms, mostly of Lowell make, with shafting and other fixtures. This property is for sale on very reasonable terms. For further particulars address, or call in person on JAMES P. UPHAM, Esq., Claremont, N. H., or ROBERT DUNCAN, Equitable Building, New York City.

FOR SALE

Water Power

In Western North Carolina.
The Finest in the South.

Lies within three miles of railroad, and route from railroad to shoals perfectly level and can be graded at a nominal cost; capacity 7500 horsepower. A dam eight feet high, the engineer says, will give the above power during the dry season. Address

DR. W. C. BLACK, GREENVILLE, S. C.

An

Excellent
Opportunity

TO GET A GOOD

WATER POWER.

Will take stock in a good cotton mill company, locating here, in exchange for my water power and land adjoining. The property is located on a bold and never-failing stream, in one of the healthiest spots in the South. Stream estimated to develop from 300 to 500 H. P. Dam already built. Correspondence invited. Address

C. G. BARR,

RIDGE SPRING, S. C.

...THE FINEST...

INVESTMENT IN THE SOUTH.

Hill's Factory Water Power

FOR SALE.

The last large undeveloped water power in Spartanburg county, South Carolina, can be bought on a basis that will make it the best single investment in the South.

It is known as Hill's Factory Power, and is located sixteen miles southeast of Spartanburg, in Spartanburg county, the leading cotton goods manufacturing county in the cotton States, having nearly a half million spindles now in successful operation, with four large additional mills in course of erection.

It is seven miles from the main line of the Port Royal & Western South Carolina Railroad with easy grade, and is the heart of this unparalleled centre of cheap and limitless raw material.

It has a fall of forty eight feet in a distance of three-fourths of a mile; natural capacity of 2000 horse-power, with a possibility of greatly increasing by development. About 400 acres of desirable land connected with power with sites for three or four fine mill plants.

The power with proper development can easily be made to turn 100,000 spindles. For further information address

L. R. HILL,

SPARTANBURG, S. C.

A BONUS

will be given to Manufacturing
Industries locating at

SNOW HILL, MD.

For particulars address

G. S. BRIDGES, Snow Hill, Md.

Little Rock,

ARKANSAS.

Little Rock offers superior advantages for cotton manufacturing.

One mill is already in successful operation.

Cotton which took first prize at the World's Fair for the longest staple, was grown in the immediate vicinity of Little Rock.

An abundance of cheap tractable labor is available.

Coal for manufacturing purposes is laid down at the mills in this city at \$1.20 per ton.

Little Rock has superior facilities for transportation, both by rail and water.

The Little Rock Commercial League, an organization of 200 citizens representing the business activity of the city, offers substantial inducement for the location, in Little Rock, of cotton mills.

Address

LITTLE ROCK COMMERCIAL LEAGUE.

FOR SALE

WATER POWER

Peculiar in its natural formation and advantages, near railroad, with good roads mostly level and hard the year round.

In the midst of the finest manufacturing and agricultural region. In a radius of fifty miles there are more spindles and looms than in any similar area in the entire South. The watershed is here confined by solid rock from bank to bank of First Broad river, free from overflow on back. Water has been utilized for over 100 years for iron works, milling, etc. destroyed by fire a few years ago. Power is sufficient to run all machinery likely to be needed. Address

DR. R. H. MORRISON,

SHELBY, N. C.

COTTON MILL SITES

IN

Spartanburg County,

SOUTH CAROLINA.

O. P. Westmoreland, Cashville, S. C.—Van Patton Shoals and 225 acres of land, on both sides of Enoree river; 50 feet fall in 100 yards, and 85 feet fall in one-quarter mile; power sufficient to drive 75,000 spindles, can be easily and cheaply developed; near P. R. & W. C. R. R., four miles from Woodruff.

O. P. WESTMORELAND,

CASHVILLE, S. C.

FOR SALE OR DEVELOPMENT WARES, SHOALS.

This power lies thirty miles below Pelzer Mills on Saluda river, which is the dividing line between Laurens and Abbeville counties, S. C., and four miles from Southern Railway. Civil engineer's report shows: 45 feet fall with a flow of water of 180,000 cubic feet per minute, making 10,900 horsepower; with properly constructed dam 12,000 horse-power can be obtained, amply sufficient to run 384,000 spindles and accompanying machinery. Four hundred and thirty-five acres of well timbered land on both sides of the river accompany the power. One of the most capable mill engineers of New England, after a personal inspection, says a dam to utilize this power can be built for \$5000. An inexhaustible supply of granite and brick-clay on property. The owners will sell or put in property as stock in a company and supplement it with a good money subscription.

Address

J. T. JOHNSON, Atty.

SPARTANBURG, S. C.

WATER POWERS

IN THE

PIEDMONT SECTION.

The success of the cotton mills of this section has been phenomenal.

This is largely due to a combination of favorable conditions which are not surpassed anywhere.

THERE ARE MANY AVAILABLE
SITES AND EFFICIENT
WATER POWERS NOT
YET UTILIZED.

Complete information will be
furnished anyone desiring to in-
vestigate.

T. B. THACKSTON,

SPARTANBURG, S. C.

CHILDERSBURG,

...ALABAMA...

Stop and Stick a Pin
Down Here.

If you are seeking a place in the South to locate a Cotton Mill, this point will fill your bill.

Situated in Talladega County, which grows some 50,000 bales of cotton annually; on the Coosa river, now partly navigable, and being opened further every year by the government; on the edge of the "Coosa River coal fields," (said to be the best "steam coal" in the State), with the "Southern" Railway and the "Georgia Central" crossing at this point, Childersburg, Ala., is peculiarly well suited for the location of cotton mill or mills, possessing advantages that are unsurpassed, combining together

Cheap Cotton, Low Freight Rates,
Cheap Coal, Free Water,
Cheap Living, Cheap Labor.

The Childersburg Land Co., owning 1600 acres, solicits correspondence along this line, and will guarantee to make liberal inducements to parties meaning business. Address

O. M. REYNOLDS, President,

ANNISTON, ALA.

For Sale—\$75,000

Water-Power Cotton Mill, Corn Mill
and Cotton Gin, 2000 Horse power.

Cotton mill 3½ stories high, stone basement; 2500 spindles ready for operation; Whirl improved machinery; 35 good houses for mill help; 1000 acres in tract, on South Fork Catawba river, covering the river for nearly two miles. Present race superior for another large cotton mill, but no expense but water-wheel, etc. Owing to ill-health and crippled condition, will sacrifice it for the above amount. For further information apply to

BURNS BROS.,
CHARLOTTE, N. C.

FOR SALE

The well known

"Reynolds' Mills" Water Power

An Ideal Site for a Cotton Mill or Plant Operating on a Specialty.

Consisting of good Dam, Canal and Penstock; two 36 in. Turbine Water Wheels under 12 ft. head, and surplus water enough under control to turn two or three more of same size; grist mill machinery for grinding meal and flour; one two and a-half story Frame Mill Building (20x70 ft.) four Tenement Houses, one Warehouse, Seventy-eight Acres of Land.

Situated on Talladega Creek at Nottingham, Talladega County, Ala., on the "Southern" Railway in one of the finest and healthiest sections of the State. Cotton can be bought at your door.

For information or further particulars address

O. M. REYNOLDS,
ANNISTON, ALA.

The Best Site

...FOR...

A Cotton Cloth Bleachery

To accommodate the mills of Georgia and South Carolina is for sale at Graniteville, S.C. The property includes a water power which develops 75 horse-power at its lowest point, and 210 acres of land.

It is only twelve miles from Augusta, with two railroads, the Charlotte, Columbia & Augusta Railroad and the South Carolina Railroad to Charleston, with their junction and depots at the property. It is three-fourths of a mile to the Graniteville factory, three miles to Vauluse, three miles to Langley and five miles to the Aiken Manufacturing Co., now building at Bath. The water of the creek is remarkably pure, free from iron and lime, and there are two large springs of pure water near the property that can be obtained if required, one of which would supply any bleachery. A better location to accommodate the mills of Georgia and South Carolina I do not believe can be found. Address

S. W. HOWLAND,
Twin Buildings, NASHVILLE, TENN.

ARE YOU INTERESTED

IN

GEORGIA

THE

"Empire State of the South,"

OR IN

COLUMBUS, GA.

THE

"Lowell of the South."

Oldest and Largest Manufacturing Centre South.
Nearest Georgia City to Alabama Coal Fields.
Free Sites for Steam and Water Power Plants.
Head of Navigation Chattahoochee River.
Large and Skilled Operative Population.
Many Cotton and Woolen Plants in operation forty years.
Complete Railroad and Steamboat Connections.
Lowest Freight, Tax and Insurance Rates.
Fine Churches and Public School System.
Electric Railways, Electric Lights, Beautiful Parks.
Climate and Health Unsurpassed in Georgia.
Cheap Living, and Building Materials at lowest cost.
Ample Banking Facilities, Customary City Institutions.
A Live, Enterprising and Refined Citizenship.
For Free Descriptive Literature, Address

F. B. GORDON, President,
Columbus Board of Trade,
COLUMBUS, GA.

FINE Water POWER

FOR FACTORY SITE.

Part of Factory Building now standing. Dam nearly 100 years old; only Wasteway and Raceway to be repaired. Eight and one-half miles south of Augusta, Ga., in Fine Pine country. Perfectly healthy, with fifteen acres for houses for mill hands, and balance covered by pond about 250 acres with right to raise Dam, to any height. Present water power 125 horse-power, by raising dam could be increased to 500 horse-power. Never failing stream, always clean; Wheel Pit and several Buildings, one and a-half miles from railroad on level; no grading necessary to build track and another railroad, all graded, running through property within fifty feet of Factory Site—one of the cheapest sites in Georgia. Charter granted in 1854. Rights and Franchises included with site. Apply to

C. V. WALKER,
Room 228 Jarvis-Conklin Bldg.,
AUGUSTA, GA.

CONYERS, GEORGIA,

Located on the Georgia Railroad, within forty minutes' ride of Atlanta.

Has superior advantages for the location of

COTTON MILLS

or other factories requiring cheap and abundant water-power, cheap raw material, plenty of white labor, good transportation facilities, etc.

Remarkable Water-Power.

The Yellow river flows through the outskirts of Conyers, and furnishes one of the most valuable and efficient water powers of its size in the South. This power has been greatly improved in late years by the building of a canal, strong and lasting dams and a large back-water pond. The water never freezes and the power never stops. The water-power is owned by a company headed by Louis Wellhouse, of Atlanta, Ga. The company owns on both sides of the river to high-water mark, thus obviating any danger from damage suits. This power could, in a measure, be bought by factories locating here. Following is the recent report of an expert who measured the power: "The stage of Yellow river at Conyers, Ga., shows the following at a point measured below the shoals at the old Stewart mill:

"Width 65 feet, average depth 30 feet, average flow per minute 200 feet, total area 150 feet, flow per minute in cubic feet 30,000, actual horse-power of stream 3237, available at 85 per cent. efficiency 2691 horse power.

"The 2691 horse power is the amount of power that could be gotten out of a first-class turbine water wheel or wheels under 57 feet head, which is the amount of head I based my calculations on."

There is located at Conyers and operated by this power a large mill, and also a grist mill. These mills are operated very cheaply, as all their raw material is grown in close proximity. There is an abundance of reliable white labor here to operate a number of large factories.

The Georgia Railroad will make any concession consistent with business judgment to factories locating here. This road now makes special rates to the mills located here, so as to enable them to compete with any point. In fact, Conyers has Atlanta freight rates to the East and Augusta freight rates to the West.

Conyers, the county seat of Rockdale county, is a prosperous, beautiful and growing suburban city. It is only forty minutes' ride from Atlanta, with four passenger trains each way every day. It has telephone and telegraph communication with Atlanta and adjacent cities, in fact, a great number of Atlanta's business men live in Conyers and do business in Atlanta. Situated in a very rich agricultural section, almost in the shadow of the famous Stone Mountain, it is an ideal place for residence as well as an unsurpassed location for manufacturing. Parties desiring to locate mills can make satisfactory terms.

The factory sites located on the water-power are underlaid with over 5,000,000 cubic feet of granite, thus affording parties who wish to build the finest and most lasting material at a nominal cost.

Rockdale is a dry county, has no bonded indebtedness, nominal taxes, good schools, colleges and churches. The land is fertile and capable of producing a diversity of paying crops. Over 25,000 bales of cotton are shipped annually from a radius of ten miles of Conyers, which ought to be manufactured there.

Further information will be furnished by

UNION PAPER MILL CO.

LOUIS WELLHOUSE, Sec'y & Treas.,
ATLANTA, GA.

Colly Mill Water Power

TO LEASE, RENT OR SELL.

Location especially adapted for factories, 2000 horse-power, fine transportation facilities, recently built, ready for machinery. No better location to be found in the South for cotton factories, etc. Twenty-five miles from Wilmington, N. C. Will take stock in factory to the value of the place. Apply to

B. F. KEITH, JR., WILMINGTON, N. C.

FOR SALE OR WILL EXCHANGE for STOCK IN COTTON MILL, or other MANUFACTURING PLANT, A DESIRABLE

WATER-POWER PROPERTY IN ALABAMA.

located within convenient distance of the East Tennessee, Virginia & Georgia Railroad, on the bank of creek which gives abundance of power for running a large plant. Cotton mill located here would be a decided success; others all around us are doing well. Suitable, however, for almost any kind of plant. There are other desirable water-powers in the same locality, and the prospect of a railroad running by the property is almost assured. Fine mineral and farming lands in immediate vicinity; no city taxes or any municipal expenses. Correspondence earnestly invited. Address

F. & S.
care Manufacturers' Record.

BELTON, TEXAS

WANTS

Capitalists AND Manufacturers.**ADVANTAGES OFFERED.**

First-class churches, schools, colleges, electric-light and telephone system, steam flouring mill, cottonseed oil mill, compress, opera-house, brick manufactory, cotton gins and one of the very best hotels in the State, cannery, water works, ice factory, two railroads and a refined, intelligent population of 6000 people. Health and beauty of location unsurpassed, and we have \$50,000, raised at home, towards putting in a Cotton Mill. Our cotton averages middling, and we have more wealth per capita than any county in the State amongst our farmers. Correspondence solicited.

HENRY AUSTIN,
For the Board of Trade.

TEXAS ★

Invites Capital and Manufactories.

TO WHOM IT MAY CONCERN:

Especially attention is hereby directed to the superior facilities offered by the enterprising and growing little City of ROCKDALE for the safe and profitable investment of capital in manufacturing enterprises.

ROCKDALE is situated in the Southern part of Milam county, and near the center of population of Texas, at the junction of the International & Great Northern and San Antonio & Arkansas Pass railroads; has a population of about 3000. The elevation and natural drainage of the town and immediate vicinity are sufficient guarantees for perpetuating the health for which the locality is noted. Already far in the lead of towns of like size as a distributing point for merchandise, and generously and intelligently provided with schools and churches. Its own citizens have successfully established the following enterprises:

- First—One twenty-five ton Cottonseed Oil Mill.
- Second—An Ice Plant.
- Third—An Electric Light Plant.
- Fourth—Water Works.
- Fifth—A Small Packery and Cold Storage Warehouse.
- Sixth—A Candy Factory.
- Seventh—A Pressed Brick Manufactory.
- Eighth—Five Incorporated Companies, mining the best quality of Lignite Coal.

In addition to these enterprises a Company is just completing a plant for compressing the Lignite into durable fuel that will not slack, and although the Lignite in its crude condition finds ready market at profitable prices, and is being shipped at the rate of twenty to thirty cars per day, the compress will render it equal to any fuel which can be obtained. The mines are located about one and a-half miles from town.

The immediate vicinity of Rockdale is covered by timber, principally oak, but in the creek and river bottoms ash, white oak and pecan abound.

Fine crops of cotton, corn, oats, sorghum and other products have annually been made, the yield last year averaging forty bushels of corn to the acre, and 25,000 bales of wagon receipts cotton were shipped this year.

With an abundant supply of good, pure water, an inexhaustible supply of fuel delivered in the city at \$1.25 per ton, good climate, healthy, society, and modern conveniences, Rockdale challenges comparison with any locality as a place for the safe investment of capital. Correspondence is respectfully solicited.

N. H. TRACY, Secretary and Treas.,
Rockdale Commercial Club,
Rockdale, Texas.

Cotton from Arkansas took the Prize at the Atlanta Exposition in 1881, the Louisville Exposition in 1883, and the World's Industrial and Cotton Centennial Exposition in New Orleans in 1885.

LIBERAL BONUS

FOR

COTTON MILL

AT

GILLETT, ARKANSAS.

GILLETT is located on beautiful Rolling Prairie, near Arkansas River, and at the junction of the Stuttgart & Arkansas River Railroad and the Pine Bluff & Eastern Railroad, the latter road passing for forty miles through the noted and famous Cotton Plantations of Jefferson County, which produces the finest staple in the South.

Twenty five thousand bales can be delivered per annum at Gillett at the lowest market price.

Coal can be delivered by barge direct from the Coal Fields.

Wood only \$1.00 per cord.
Brick \$6.00 per 1000.

Lumber \$6.00 to \$12.00 per 1000.

Health good.

Water plenty, pure and wholesome.

Population rapidly increasing from North and West.

SPECIAL ADVANTAGES IN FREIGHT.

Correspondence Solicited.

T. H. LESLIE, Vice-Prest.

Stuttgart & Arkansas River Railroad,
and Pine Bluff & Eastern Railroad.
GILLETT, ARKANSAS.

Hendersonville, N. C...

To the Front for a **COTTON MILL.**

THE temperature varies from twenty degrees above to eighty-five. Mills can run all the year. No exposure to excessive heat or cold. The location is healthful, records of which are made. Altitude 2250 feet. The air is pure and water good, as it gushes from these granite hills. A fall of 300 feet from a natural reservoir gives to her water works great pressure, and insures efficiency in case of fire. Hendersonville is a great summer resort.

Fuel is cheap; wood at \$1.00 per cord and coal less than \$2.50 per ton. These hills, valleys and mountains are densely covered with native forest, seemingly inexhaustible, of the finest heat-producing varieties, whilst the town is in close and direct railroad communication with the coal beds of Tennessee. Building material of all varieties is plentiful and cheap. The products of the farms, orchards, gardens and dairies make living inexpensive. White labor is cheap and wonderfully efficient, as regarded by cotton-mill men who have tested it.

Hendersonville is on the great Trunk Railroad between the extreme South and the great Northwest, via Cincinnati and Chicago, running hundreds of miles amidst the cotton fields of Georgia and the Carolinas and the coal beds of Tennessee and Kentucky, and is connected by branch road, with the timbers, minerals and farm products of one of the richest valleys of the South. She is thirty miles from and 1500 feet above the cotton-growing region—just far enough to make the shipment of raw material of little consequence, and high enough to insure operatives against oppressive heat in the summer.

The town, with a population of about 1800, is upon a beautiful plateau ten miles in diameter, embracing the top of the Blue Ridge, "backbone of the world," surrounded with mountains higher still by several hundred feet. Her church and school facilities are good.

A cotton mill company has been temporarily organized with M. C. Toms, president, and S. V. Pickens, secretary.

A \$150,000 steam power mill is proposed.

We want from \$75,000 to \$100,000 stock subscribed by Northern gentlemen.

Correspondence solicited. Address,

S. V. PICKENS, Secretary,

HENDERSONVILLE, N. C.

GREENVILLE, MISSISSIPPI.

The undersigned, having been appointed by a taxpayers' meeting recently held in the city of Greenville as a committee for the purpose of submitting a few facts relative to the advantages of this point as a location for cotton factories, beg leave to submit the following data: Greenville is centrally located, about the middle of the delta; has a population of about 8000; has three banks, with a capital of \$100,000 each—large capital invested in saw-mill interests; two cotton compresses, and two large oil mills, with a third (the De Soto Oil Mills) under construction. There is produced within a radius of 100 miles of the town 500,000 bales of cotton annually. This cotton is of the character ordinarily known as "Greenville Benders," having a staple of 1½ to 1¾ inches, and is sought after by spinners, commanding always a price above the quotations.

There has been no attempt made to ascertain if contributions could be obtained from citizens here, but the people would extend a hearty welcome to those desiring to embark in business, and we believe the natural facilities of the place, upon a statement of them, commend the town as an eminently favorable location. A suitable site upon either the Southern Railway or the Yazoo & Mississippi Valley Railroad for a factory within the corporate limits can be secured, our information is, as a donation. Fifteen or twenty acres, if so much is needed for the erection of houses for employees, can be secured within a half mile of the corporate limits for \$50 per acre, or a site sufficiently large for a factory and houses for employees, and most eligibly located, can be secured, on very reasonable terms, within the corporate limits.

In regard to the cost of erecting a factory, timber for framing will cost, delivered at this point, from \$10.00 to \$12.50 per thousand; dressed lumber from \$12.50 to \$22.00 per thousand; lime 70 to 90 cents per barrel; brick \$6.00; sand 75 cents per yard; steam coal, either Pittsburg or Alabama coal, will cost delivered here from \$1.60 to \$1.75 per ton. This being one of the cheapest markets in the South, owing to the river and rail communications and to the direct communications via the Southern Railway with the Alabama mines.

Under the provisions of the Annotated Code of Mississippi, section 3744, a factory would be exempt from taxation for a period of ten years.

The transportation facilities are exceptional, the town being built immediately on the Mississippi river, with a permanent bank, secured by revetment works, and being on the Riverside Division of the Yazoo & Mississippi Valley Railroad, a trunk line from Memphis to New Orleans, and being the terminus of the Southern Railway in Mississippi, a due East and West line.

All cotton needed for a factory could be readily delivered in the seed, making the difference in cost of cotton to a factory here and one East of about the following amount per bale:

Cost of ginning (estimate based on 500-pound bale).....	\$2 50
Cost of storage in compress.....	50
Cost of compressing for shipment.....	50
Cost of freight to Eastern points.....	\$3 00 to 3 50

Making a difference of from \$6.00 to \$7.50 per bale in favor of this point.

The atmosphere is moist, favorable to spinning cotton.

The mortality statistics compare favorably with any city in the United States, save one.

Mean temperature is about 63.3 degrees.

This is a brief statement of the main points of advantage that would seem to us to commend this place as a site for a cotton factory.

If there is any other information desired we will gladly furnish same.

W. W. STONE,
JOSHUA SKINNER,
LEROY PERCY,
HENRY T. TREYS,
HERMAN WILCZINSKI.

FLORENCE, S. C.

THE "MAGIC CITY" OF

—South Carolina.

RAILROADS.—Florence has six railroads centering in her limits, namely—Northeastern, Wilmington, Columbia & Augusta, Cheraw & Darlington, Florence, Atlantic Coast Line and Hartsville railroads.

POPULATION.—At present 5500, and growing daily.

INDUSTRIES LOCATED—Atlantic Coast Line Railroad Shops, Cotton Oil Mill, Sash, Door and Blind Factory, Planing Mills, Brickyards, Iron Works, Electric Light House, Tobacco Factory, Tobacco Warehouse (two), Telephone Exchange (long and short distance), Six Weekly Newspapers and One Daily.

WATER POWER.—Black Creek—a broad stream of water, three miles distant. Power ample for all needs.

WATER—Artesian Well 1200 feet deep; and other wells from twenty to thirty feet deep. Good Water.

CHURCHES AND SCHOOLS.—Graded School and High School. Five denominational Churches, namely—Episcopal, Presbyterian, Roman Catholic, Baptist and Methodist.

CLIMATE.—Excellent. Temperature averages sixty degrees the year round.

WOOD—Price in carload lots, 90 cents per cord.

COAL.—Nearest Coal Mine 150 miles distant. Cost delivered, \$3.50 in carload lots.

SURROUNDING COUNTRY.—Arable lands for farming, and well settled up with thrifty farmers. Trucking encouraged and developed.

LIVING EXPENSES.—As reasonable as can be found anywhere. Cost averages about that of fuel in the North.

COTTON RAISED.—Fine Cotton Belt. Between 25,000 and 30,000 Bales of Cotton annually, tributary to Florence.

COTTON FACTORIES.—None located here or in suburbs.

NEAREST COTTON FACTORY.—One ten miles distant. No other nearer than forty miles.

STATE AND COUNTY TAXES.—Eleven mills.

CITY TAXES.—Thirteen mills.

EXEMPTION.—Florence will exempt any Manufactory for fifteen (15) years from City Taxes.

LAND CONCESSIONS.—Land will be Donated for Site for Factories.

ENCOURAGEMENTS AND INDUCEMENTS TO LOCATE.—The citizens of Florence will subscribe to any industry locating within or near Florence, and otherwise encourage all enterprises.

PROBABILITY OF LABOR.—We have good, reliable White and Colored Labor at Low Cost. No Labor Unions.

BOARD OF TRADE OF FLORENCE.—The Board of Trade stands at all times ready to aid in the establishment of enterprises in and near Florence, and will encourage, substantially and morally, all efforts to up-build the city of Florence. The Board of Trade, lately organized, numbers about 100 of the representative citizens of the city, banded together for her good and welfare, and the membership is increasing daily.

MARIETTA,

... Georgia,

LOCATED AT THE BASE OF

HISTORIC KENNESAW MOUNTAIN.

The Ideal Place for Cotton Mills.
 Absolutely Free from Malaria.
 Steam Coal F. O. B. cars Marietta,
 \$1.75 per ton.
 Equable Climate. Freestone Water.



Marietta, Georgia, is located twenty miles from Atlanta, on the Western & Atlantic Railroad, and at the terminus of the Marietta & North Georgia Railroad; is at the foot of the Blue Ridge Hills, in the Piedmont Region, and at the base of Kennesaw Mountain; is 1135 feet above the level of the sea, with a remarkably dry atmosphere, making it the most delightful climate the year round to be found in the United States. Mean temperature—winter, 46; spring, 60; summer, 75; Autumn, 62. Average annual mean temperature, 62. Absolutely free from malaria. The air is pure and bracing, full of ozone; no excessive heat in summer nor extreme cold in winter. Many people have come here with throat and lung troubles and have gone away cured or greatly relieved.

Marietta is in the center of what has been called the "Banner County" of the State. Ten to twenty thousand bales of cotton are sold here annually. This cotton is of superior quality, mostly handled by small white farmers; it is unusually free from dirt or trash. A cotton mill, owning its own gins, could buy two to three thousand bales of cotton during the season in the seed, saving the profits on ginning and weight of bagging and ties.

Cotton can be bought here from one-eighth to three-sixteenth LESS than in Atlanta. The freight on the products of cotton mills can be shipped North, East, West or South at the same rate of freight as from Atlanta. Good steam coal can be delivered here at \$1.75 per ton. Any quantity of native help can be obtained that with a little training will do first-class work.

Marietta is a prohibition town, consequently a quiet one, with 4000 population. It has four good churches, a splendid system of public schools, two banks with ample capital for the present needs of the place, and ready to increase if the demand requires it. The city is lighted with arc and incandescent electric lights.

Marietta has two large chair factories, two planing mills, machine shop and stove manufactory, a large new paper mill, creamery, a carriage manufactory, an immense marble mill, four marble shops, two hosiery mills, &c.

Parties desiring to locate cotton mills or other manufacturing industries in the South would do well to come to Marietta and look over the ground before locating. Our advantages will be appreciated when fully investigated.

W. S. N. NEAL,
 B. R. LEGG,
 P. R. CORTELYON,

Committee from board of Trade.

THE PLACE

Offering Superior Inducements

FOR THE LOCATION OF

COTTON MILLS

And Other Manufacturing Enterprises
 in the South is

AUSTELL,

.. GEORGIA ..

Situated on two great trunk lines, eighteen miles from Atlanta and in close proximity to all distributing centres, and also close to the great coalfields of Alabama and Tennessee. The town is 1100 feet above sea-level. Mean temperature in summer 65 degrees; winter 45. Soil adapted to the growth of all fruits, vegetables, grain, cotton, corn and stock-raising, abundance of timber and granite. We offer:

Free Lands.

Free Tax

The cheapest Coal in the South—\$1.40 per ton.

Water Power 20 per cent. cheaper than can be obtained elsewhere.

We have a magnificent water power which can be readily reached and developed to capacity sufficient to run a dozen mills, and guarantee to furnish power 20 per cent. cheaper than it can be obtained elsewhere in the South.

We cordially invite all looking towards a location in the South to visit us. All correspondence promptly replied to. Austell is a beautiful and healthful little city, noted throughout the South as a health and summer resort. The famous Bowden Lithia Springs are located here, dummy line running directly to the springs. It is only thirty minutes from Atlanta, with passenger trains on the different roads running to and fro at short intervals, making it equal to an average street-car service. Notwithstanding this, land and all conditions and commodities are as cheap as can be found at any small village in the South. Address

C. J. SHELVERTON, Mayor.

AUGUSTA, GA.

THE LARGEST COTTON MANUFACTURING CITY IN THE SOUTH.

SITUATION.

Augusta, with a population of 50,000 people, is beautifully situated on the right bank and at the head of steam navigation of the Savannah river, the boundary line between Georgia and South Carolina, in latitude 33.29 North.

LABOR.

There is in Augusta and vicinity an abundance of intelligent and trained cotton mill labor. The present mills give employment to 4500 people, and in the words of one of our experienced mill men, "we could supply a 30,000-spindle mill with trained labor and have it in full operation in ninety days." Let it be understood that no Negro labor is used in Southern cotton mills except for such work as scouring floors, trucking, etc.

SHIPPING FACILITIES.

There are ten railroads entering Augusta, traversing fertile sections and extending to all the markets. Via these railroads the five great South Atlantic seaports are reached by direct lines, which makes competition in freights. Steamboats ply the Savannah river between Augusta and the Atlantic Seaboard all the year. This, together with railroad competition, gives Augusta lower rates of freight to the East than any other inland city of the South, as will be seen by the following comparative table of rates.

TABLE OF RATES.

Comparative rates of freight on domestics in cents per 100 pounds, between Augusta, Ga., and other interior cities to the following cities:

From	NwYork	Boston	Phila.	St.Louis	Cin'ti.	Chicago
Augusta to...	32	32	32	45	40	50
Columbia to...	47	52	47	54	40	50
Atlanta to...	60	60	60	45	40	50
Athens to...	60	60	60	45	40	50
Macon to...	59	59	59	45	40	50
Columbus to...	60	60	60	45	40	50
Montgomery..	60	60	58	45	40	50

COTTON.

Augusta is the second largest inland cotton market of the world, the annual receipts being 200,000 to 250,000 bales. The quality and texture of this cotton are equal to any, and far surpass that of many localities in the South where cotton goods are manufactured. This great supply makes it possible for the local manufacturer to exercise the utmost care in selecting grades as well as staple; of this supply only 85,000 bales are consumed annually by the local mills.

COAL

For steam purposes is delivered in the city at \$3.00 per ton, and this price will be materially reduced upon the completion of a competing railroad line to the coal fields, which is partly graded and which will be completed at no distant day.

WATER POWER CANAL.

The Augusta Canal, owned by the city, is one of the largest in the United States. It was constructed in 1845-47 to develop 600 horse-power, and enlarged in 1872-76 to its present capacity of 14,000 horse-power.

The length of main canal or first level is seven miles, and the other two levels two miles, making a total length of nine miles. Minimum waterway is 150 feet at surface and 106 feet at bottom, making an area of cross section of 1408 square feet. The dam, locks, bulkhead and other structures are composed of solid masonry built of granite rock and are of the most substantial character. The entire waters of the Savannah river, the eighth river of the Union, being next in size to the Hudson, are made available for maintaining the supply. This power, owned by the city, has cost about \$1,500,000.

Power is rented by the city to manufacturers at the low price of \$5.50 per horse-power per annum.

There are 3000 horse-power unused and for rent at the present time.

COST OF WATER-POWER.

Place.	Hours of use per day.	Rate per year.
Augusta, Ga.....	16	\$ 5.50
Birmingham, Conn.....	12	20.00
Patterson, N. J.....	24	37.50
Mayunk, Pa.....	24	36.25
Dayton, Ohio.....	10	10.00
Wamesit Dam.....	11 1/2	48.25
Lowell, Mass.....	10 to 11 1/2	20.00
Lawrence, Mass.....	10 to 11 1/2	20.00
Cohoes, N. Y.....	10 to 11 1/2	20.00
Holyoke, Mass.....	10 to 11 1/2	20.00
Lockport, N. Y.....	24	16.56
Rochester, N. Y.....	24	25.00

CLIMATE.

The climate of Eastern Middle Georgia, in which Augusta is situated, is unsurpassed for manufacturing, and especially for the manufacture of cotton goods. It will be found by reference to statistics that the temperature at Augusta is mild; the average for twenty-three years is as follows: spring, 64; summer, 80; autumn, 64; winter, 49. As regards humidity, the following comparative table would indicate that Augusta's per centage of humidity is almost exactly the same as the great New England manufacturing districts.

MEAN ANNUAL RELATIVE HUMIDITY UP TO 1882.

(The date of the last United States report available. The cities named are those having records in this report, nearest the New England manufacturing district.)

Augusta, Ga.....	69.4 per cent.
Boston, Mass.....	69.5 "
Portland, Me.....	70.9 "
New Haven, Conn.....	71.4 "
New London, Conn.....	72.8 "
East Portland, Me.....	76.4 "

HEALTH.

Augusta's death rate for whites per 1000 in 1894 was 11.36.

PRESENT STATE OF COTTON MANUFACTURING AT AUGUSTA.

It has been said by an eminent manufacturer that "the isolated cotton mills, whether in the North or in the South, are always at a grave disadvantage as compared to those which being grouped together where the conditions are suitable, find their supplies of material always ready and also find repair shops and special arts which are auxiliary to the manufacturer of cotton at their very doors." The latter is the condition which exists at Augusta. As will be seen by the subjoined table there are in Augusta and this immediate vicinity twelve cotton mills in active operation and one in course of erection, with an aggregate capital stock of \$5,290,000, while the amount invested in this industry here is at the lowest estimation \$7,570,000. Augusta is not only the largest cotton manufacturing centre in the South, but manufactures about three times more cotton than any other city in the South.

Therefore it will be seen that there is no isolation, and the presence of so many mills attracts labor, which accounts for the surplus here at all times.

Name.	Year established.	No. hands employed.	Number spindles.	No. Looms.	Capital stock.
The John P. King Mfg. Co..	1882	700	40,288	1200	\$1,000,000
The Sibley Mfg. Co.....	1880	750	40,250	1100	1,000,000
The Langley Mfg. Co.....	1870	440	25,442	852	600,000
Enterprise Mfg. Co.....	1877	520	32,000	908	750,000
The Augusta Factory.....	1846	580	27,442	824	600,000
Graniteville Mfg. Co.....	1845	450	22,314	648	600,000
Vaulcluse Factory.....	1877	250	11,008	362	600,000
The Isaetta Mills.....	1884	130	4,321	150	100,000
Warwick Cotton Mills.....	1888	75	2,500	75	25,000
Globe Cotton Mills.....	1876	60	2,200	48	30,000
Phoenix Factory.....	1835	130	5,640	Yarns	35,000
Riverside Mills.....	1876	225	.....	.....	150,000
The Aiken Mfg. Co.....	1895	.....	15,000	400	400,000
Total.....	.....	4510	239,705	6596	\$5,290,000

†In course of erection. *Battling and waste.

AUGUSTA'S INDUSTRIAL GROWTH.

In the last census decade the growth of this city has been remarkable, as is clearly set forth in the following comparative statement, showing the per centage of increase in manufacturing in the most progressive Southern cities.

OFFICIAL CENSUS REPORTS—1890.

Percentage of increase in manufacturing in the last ten years.	No. of establishments, per cent.	Capital invested per cent.	No. hands employed, per ct.	Wages paid, per cent.	Value Material used, per ct.	Value of product, per ct.
AUGUSTA, GA.....	633.33	275.53	274.64	359.69	105.10	191.51
Atlanta, Ga.....	105.12	285.06	135.73	327.91	58.06	168.60
Baltimore, Md.....	35.22	104.63	40.39	121.83	44.27	69.14
Chattanooga, Ten.....	370.68	226.00	140.00	325.00	128.00	192.4
Louisville, Ky.....	26.99	38.85	35.17	83.38	5.78	25.4
Memphis, Tenn.....	104.35	233.99	128.09	215.23	140.21	153.51
Mobile, Ala.....	138.46	170.94	223.86	221.79	68.09	110.09
Nashville, Tenn.....	27.24	99.80	43.16	134.42	40.60	51.15
New Orleans, La.....	90.49	135.91	129.42	156.53	60.36	85.84
Petersburg, Va.....	61.74	111.65	23.12	116.58	25.53	44.89
Richmond, Va.....	43.31	122.37	18.35	110.16	0.20	18.47
Savannah, Ga.....	102.0	385.39	141.33	199.71	5.42	83.21
Wheeling, W.Va.....	31.36	34.09	6.37	6.79	19.16	16.80

Augusta has never been the victim of a so-called "boom" in real estate, and therefore prices are not inflated.

ELECTRICITY.

Besides two plants for lighting purposes, there is on the banks of the canal a well-equipped power plant, erected at a cost of about \$95,000. Electricity being generated by water power, this power is furnished to manufacturers throughout the city at the lowest possible cost.

FINANCE AND TAXES.

Total bonded debt of the city of Augusta is \$1,750,800.

Floating debt—none.

Population of the city 45,000; adjacent suburbs, 5000 more.

Tax digests for 1894 were:

Real Estate.....	\$16,673,000
Personality.....	5,831,000
Actual increase over previous year.....	\$22,504,000
	391,000

To which add \$898,000 of railroad property, which under the present law is now assessed in the Office of the Comptroller-General of the State, which makes the real increase in assessed valuation in 1894 over 1893 \$1,289,000.

TAX RATE.

Augusta's tax levy is, and has been for some years, \$12.50 per \$1,000. This covers all purposes whatever.

Augusta has never repudiated any debt of any character. Every form of obligation or debt ever incurred by the city has been paid when due. The public sentiment is especially alive on the subject of the city's credit.

THE CITY'S ASSETS.

Principally the Augusta Canal, nine miles in length, main canal 150 feet width, furnishing 14,000 horse-power, of which about 11,000 horse-power are in actual use.

Canal cost about.....	\$1,500,000
City water works cost about.....	600,000
City real estate, at fair market valuation.....	210,000

Actual value.....\$2,310,000

The annual income of the city in 1894 from canal water rents.....	\$50,000
From city water works.....	45,000

Income in 1894 from water.....\$95,000

These rents increase annually with the ordinary extension of service pipes and the inauguration of new water power plants on the canal.

The interest charges on the whole public debt will, in a few years, be fully covered by the income from these sources.

W. B. YOUNG, Mayor.

MANUFACTORIES ESPECIALLY DESIRED.

Cotton Factories, Bleachery, Starch Factory, Wood-working Plants, Brick, Tile and Kaolin plants.

All Communications will have prompt attention. Address

YOUNG MEN'S BUSINESS LEAGUE, 327 Jarvis-Conklin Building, Augusta, Ga.